



On the Great American Plateau

Wanderings among Canyons and
Buttes, in the Land of the
Cliff-Dweller, and the
Indian of To-day.

By
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Illustrated with Photographs, and with Original
Drawings by Edward Leaming.

G. P. Putnam's Sons
New York and London
The Knickerbocker Press

1907

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The Knickerbocker Press, New York

PREFACE

THESE glimpses of the rugged Southwest country, with its quaint aborigines and the ruins of an elder folk, already in part have been published in the magazines. They are here brought together in the hope that some other town dweller, after the rush and turmoil of his winter's work, may be led to wander away from the beaten tracks into the serene and inspiring solitudes of this land of wide horizons.

The writer is indebted to the courtesy of the Messrs. Harper and Brothers for permission to publish in this form such of the material as has appeared in *Harper's Magazine*, and to *The American Anthropologist* for consent to similar use of an article from its pages.

T. M. P.

NEW YORK, *June*, 1906.



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On the Great American Plateau



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CHAPTER I

A GLIMPSE OF THE GREAT PLATEAU

THE Great Plateau of the United States west of the Rocky Mountains reaches far up into Wyoming, lies upon the borderlands of Utah and Colorado, and broadens southward over the upper half of Arizona and the northwest corner of New Mexico.

Multitudes of desolate valleys and canyons have been carved out of this great highland, thousands of feet deep in places, by unnumbered ages of erosion. These

are now almost wholly dry, save when a cloud-burst or a storm on the far mountains sends a mad torrent roaring down. The higher regions range from seven to eleven thousand feet above the sea, vast rugged platforms bordered by winding cliffs. Upon some of these, great pine forests stretch for hundreds of miles guarding their primeval solitudes.

The tops of many mesas and tablelands are clad with dense growths of piñon, juniper, and cedar; while on the lower levels, uncouth weeds, scattered tufts of grass, the cactus, the Spanish bayonet, the sage-brush, and the greasewood make shift to gather what little moisture they may need from the deep recesses of the soil. Along some of the stream beds great cottonwoods afford a generous shelter from the sun. In open glades and forests here and there quaint brilliant flowers in their season smile back a jaunty

defiance to the austere earth. In many of the broader valleys the sand lies deep or drifts in blinding clouds upon the air.

This land of mighty wind-swept uplands and bewildering gorges, of forest and desert and plain, lies to-day almost as the Spaniards found it more than three hundred years ago. Some favoured valleys have yielded to the magic touch of irrigation, and small farming hamlets nestle beside the waterways. Along the line of the few railways which have pushed across the plateau in quest of the Pacific are widely Sundered uncouth, villages. But get out of sight of the settlements and out of hearing of the locomotives, and you are face to face with the naked earth as the great sculptors, flood, wind, and sand, have left it.

One might belong to almost any century since the world was peopled; and the folks now and then encountered are more than

likely to be brown pagans who still people the earth and air with gods of their own, live in the thrall of strange superstitions, and know the day and its happenings as only the out-of-door folk can. To these Indians, beasts and plants talk, the wind whispers, while the sun and the rain study their welfare or plot their undoing.

The story of this great plateau tells of ages in which the world was slowly moulded by fire and flood, and carved by the relentless elements. Dry land was conjured from great interior seas and lifted into vast uplands, then torn and tilted and gullied as new gigantic rivers sought new highways to the sea. Life came and traced its records here and there upon the pages of the great stone book.

The vast tableland is dumb anent the coming of man. But we find the ruins of his abandoned homes all over the southern segment of the plateau, straggling out upon



its eastern and its western fringes. Cliff-dwellers and cave-dwellers, dwellers upon the tops of lofty mesas and in snug valleys at their feet, all are gone; and their crumbling homes are desolate.

It was not until the Spaniards came prying up upon the plateau that the Pueblo and other Indians whose descendants still wander the old pathways were dragged, very much against their will, out of the languid prehistoric silences. Then came the conquests of the Spaniards, followed by a quarter of a century of Mexican rule.

At last the Great Plateau, austere as ever, is gathered to the fold of the United States. Its wayside stories, wild, quaint, pathetic, it tells to the wanderer in tune with its spirit along its ancient pathways. It has received the hunter, the trapper, the explorer, into its capacious bosom—to return or not as fortune and the Indian

willed. The cowboy has spied out its fastnesses; the railway engineer has marked in toil and hardship the routes along which in later time the streams of life and industry and trade surge to and fro. The surveyor has projected his lines over its arid one hundred and thirty thousand square miles. But the Great Plateau yields very grudgingly to the touch of civilisation. It opens here and there a narrow way for the hurrying trains, closing its great silences behind them as they vanish, then rolls away their polluting trails of smoke into its vast aerial spaces, and falls asleep again.

The part of the plateau which on the whole is most attractive to the seeker of adventure in this land of wide horizons is that which lies between the Denver and Rio Grande Railroad on the north and the Santa Fé Railway and the country to which it ministers on the south. The

Santa Fé crosses through the heart of the plateau over a region austere and forbidding enough it is true, from the car window, for all its miles of gorgeous cliffs and noble forests. But it is so lavish in stories of the world's fashioning, so rich in fading glimpses of strange old barbarians who are gone, so quaintly peopled with kindly children of the earth and the sun who bid one welcome to homes and firesides where for centuries they have foregathered; a land withal so alluring for its absolute freedom from fret and fume, where you and you alone are owner of the day, that when once you have broken the link which bound you to the rails and head off into the dreamy, shimmering mazes which lure you on and on, it will be strange indeed if you do not for some lucid hours care least of all things whether the fortunes of the way are ever to lead you back.

Nothing matters much so long as you

can find a little water for yourself and your faithful beasts, and a few stray sticks to cook your simple fare. Some line of curious, brilliant buttes upon the far horizon, some faint tradition of a crumbling ruin over the long divide, some rumour of an assemblage of the clans in ceremonial dances which bridge the years between the age of stone and the age of steam, or mayhap only the whim to see where you will get to if you follow the meagre trail winding up the valley,—such are the sufficient aims of days and weeks of wandering on the Great Plateau when once you have forgotten that the twentieth century has just begun, and have drifted back into the simple days and ways before the Spaniards came.

Remote as are many parts of the Great Plateau from the usual lines of travel, the tourist may get close to the archæologic heart of the land, may see varied

phases of native Indian life, and some of the most beautiful and the grandest of the canyons, through the ministrations of established public conveyances and the occasional use of a ranchman's team.

But for the longer journeys into the recesses of the plateau, the explorer must secure hardy ponies or mules, accustomed to forage for themselves on the scantiest of herbage, and capable, if need be, of sustaining life for a day or two on the willow twigs and rank dried weeds of the bottoms. The pack is entrusted to mules. A canvas wagon-sheet and a blanket must serve in lieu of tent and bed. It is no hardship, however, in this dry and bracing air, to sleep on the ground under the stars.

Unless one knows the country well and is accustomed to the management of horses and mules of all degrees of depravity, it is hazardous to venture out upon the plateau and into the Indian

country unattended. Here is elemental life, here is genuine freedom; but these exalted states are not to be won without strict conformity to the inexorable requirements of the land. Water is often very scanty, and usually, to the uninitiated, very hard to find; and the ignorant and foolhardy can readily die from thirst.

In the high country the great pines sway and sing in the wind at night and morning. The piñons and cedars on the lower levels murmur fitfully to the passing breeze. Small lizards rustle in the dried grass as they whisk from your presence. Prairie dogs here and there chatter at you as you pass. Now and then in the forest a mountain lion steals away among the pines, or a surprised bob-cat dashes off around the rocks. Deer and antelope still feed in the remoter uplands. The mountain sheep are gone. Bear are seldom encountered. As night comes on, the howls



and barks of the wily coyotes circling far about the camp are weird and mournful. But the great country stretching away for hundreds of miles has scarce a human habitation, few wild animals and birds, and these largely of the still kind.

It is very hot in the daytime, with the sun glaring straight at one from above and back at him from the rocks. Perhaps there is no shade for twenty miles, except under the mules,—and perhaps the mules kick. But it is a dry heat which does not depress and exhaust; it stimulates while it scorches.

The nights are always deliciously cool. Altogether the wanderer who does not mind the wholesome sunburn upon the skin, and has a good supply of water, is as free and comfortable and happy as good mortals deserve to be. How far away the great city seems! And for the thousand unnecessary things which we gather

about us in our winter thralldom and dote upon, how pitiful are they, if we deign to recall them! This is living. We get down to sheer manhood, face to face with the bare, relentless, fascinating old earth. And ever above is the marvellous sky and ever a nameless witchery of the air, making far things strange and beautiful, and more than all else luring the wanderer back to these hot wastes year after year.



CHAPTER II

DAYS IN THE SADDLE

ONE day in the saddle in the plateau country is much like another, save for the ever-changing scene and the mild adventures of the way. Before dawn the Indian is off to track and bring in the beasts, which have been turned adrift to forage for themselves through the night.

Now, one by one, jumbled heaps of blankets, scattered on the ground, heave and shift, and at length disclose each a man, who quickly satisfies the modest claims of the toilet, and at once gets to work at the breakfast. A fire is made, the biscuit are baked in an iron pot set upon coals with a small fire alight upon

the lid. The ground is seat and table. There is no dallying with the breakfast. The mules are packed early, for it gets hot right away after sunrise.

So the beasts get their last sip of water, the canteens are filled, and the caravan moves off in single file. The gait is usually a jog-trot or a walk. The distance covered in a day depends upon the situation of water along the route. The average is from twenty-five to thirty miles.

The march in summer is always strenuous in the South-west, because of the burning sun. But in the high country refreshing breezes are almost always astir, and the vast sweep of the vision, the great masses of marvellous colour in sand and cliff and butte, the matchless sky, and the glorious freedom of the life banish all thought of hardship, and hide fatigue in the inspiration of a careless holiday.



We skirt the bases of gigantic cliffs which, seen from near and far below, look like the sides of mountain ranges. We scramble up through rugged gullies to the top, and find that they are level plateaus scantily clad with soil, and broken by shrub and piñon and cedar. The Spanish bayonet bristles and great scrawny cactuses stare at us. The eye wanders off to other uplands scored and furrowed by gorges of wildest form, and catches still farther away the shadowy uplift of mountain peaks—the Henrys, the La Sals, the Blues the Carrisos, San Mateo, the San Francisco peaks, and the long dome of old Navajo, faint and tremulous through miles of shimmering space.

Away off on the San Juan desert or along the barren reaches of the Colorado Chiquito, great sand pillars swirl upward on the wind and sway and crumble and fade, while the under surfaces of fleecy

cloud-banks sailing over their dreadful wastes are lurid from the hot reflection of the sand.

We swing across the plateau and slide or clamber down again. But with the descent of a few hundred feet we are in another world. The vision no longer revels in those upland spaces which raise the spirit into exultant mastery. It may be a desperate labyrinth of gorges along which now we fare, whose grotesque and threatening walls crowd in upon the way in stolid, brutal insistence. It may be a broad valley with dry, level, grassy bottom, and bordered by miles of majestic cliffs beset with alcoves here and there, whose blissful shadows lure one from the way.

Perhaps ahead of us the valley narrows, the buttressed cliffs forming a gigantic colonnade down which we ride, while great rock pillars and colossal obelisks tower here and there above the walls

gleaming in grey or buff or pink or red against the rich blue background of the sky.

Or the valley opens out upon a sweep of sandy plain, its buff and yellow stretches beset with billowy masses of the sage, now grey, now lilac-tinted through the shimmering air, with an elusive purple among the shadows of its leaves, which, as one rustles by them, fling a faint aroma on the air. We look across this tremulous stretch of lilac and purple and gold, like a brilliant restless sea struck motionless, with its waves abreak, to the far horizon upon which rise miles of gorgeous buttes—white, yellow, purple, orange, and brown—all alive with the intense shadows which come and go upon their rugged faces.

Sometimes we drop suddenly out of the shimmering spaces of the plain and ride for miles along the bottom of huge arroyos which the floods have washed out of the deep alluvium.

Now and then the quivering air plays strange tricks with the vision as we straggle across the sandy reaches of the bottoms. In the mirage the cliffs shoot up in wavering pinnacles, rock columns rise and hang in swaying pointed masses above their real selves, then slowly dwindle and fade or draw upward and flash out of sight. A few times I have seen beautiful lakes suddenly appear across the trail, with foamed-tipped waves breaking in silence upon green shores, which glided along the burning sand to vanish in a breath.

From the high uplands scudding clouds sometimes shoot down long wavering shower-slants, which fade at the touch of the hot, dry air before they reach the earth. One may see afar, or encounter, brief veil-like showers, which are conjured into being with never a cloud in all the sky.



Although continuous rainfall is infrequent upon the wide expanses of the plateau in summer, thunder-showers of terrific violence sometimes sweep across them. And I know of no more severe test of serenity of spirit than to face one of these in its unmitigated violence. If there were but a rock or tree or bush under which one could secure at least the moral support of a shelter, the strain would be less severe. Still one may summon fortitude at last to face the rage and fury of the wind and rain, and even to exult in the flash and roar and clatter of the bolts which fall in quick succession all about one. When the demon of the storm is once in possession, one loses all thought of danger, and is fairly regretful when at last, with a sudden swish, the last pulse of the downpour sweeps by and the black chaos goes roaring off.

But when, as not rarely happens in

these violent showers, out of the seething alembic hailstones are hurled down upon one, neither serenity nor bravado is of much avail. He gets black and blue welts upon his back and shoulders just the same, and the horses go wild with terror and pain of the fiendish bombardment.

Here and there we come upon ruins of the old cliff-dwellers, plastered on the faces of the ledges, or atop of dizzy pinnacles of rock, or in sags of the hills, where trickling springs may still be found. Broken pottery in places litters the ground about these ruins, and the old burial-places tell in no doubtful fashion, to him who knows how to read the story, the age and populousness of these long-forgotten homes.

The animals must be well cared for in the long, arduous jaunts, no matter how man is neglected. Because, in these dry,

desolate countries, to be left afoot is to face such hardships as few care to risk. The horse is fed first, watered first, and first unburdened for his rest. How he will fare in the night forage is the last thing in your consciousness before you sleep. How he has fared, the first query of the morning. And all day long he is your comrade. Sharing thus the varied fortunes of the way, you fall into terms of intimacy and often affection.

The animals of the South-west country are wonted to long journeys and serious hardship. But that which most relentlessly saps the energy and daunts the spirit is lack of water. A horse or mule may now and then go on for two hot days and a night without it; but this may be his ruin, for he is apt to lose heart and give up if such demands be frequent. The men in a small company can carry water enough for themselves in canteens

and a small keg for two dry days. But dry camps are not cheerful, and one ought to be mighty certain of water of some sort before dark on the second night.

Now and then one rides forward for a chat with a comrade; he may beguile the way with a song. The Indian strikes up some weird refrain; then one shrieks at the pack-mules as they stray. But the order is mostly single file, and the trail is mostly silent. It is a dreamy, vacuous life which one slips away into as the hot hours pass. He is half conscious of the splendid sky and the lengthening shadows on cliff and plain as he jogs on and on, but the vision of memory is often more vivid than the impression of the hour.

So at last we come to the camping-place. Sometimes this is in the cozy shelter of a friendly cottonwood, or in the lee of a gigantic butte towering above the plain,



or in a shallow cave in the ledges of a rugged ravine. More often the camp is out in the open among the sage-brush or where a trickle or puddle or pool of water is found. Wherever it may be, there are no tents to pitch, nothing necessary but forage for the horses, water, a little wood, and a few square feet of earth. Drop your packs and build a fire and you are at home.

The horses are hobbled and turned adrift, supper is materialised and, if the night be at hand, hurriedly and sleepily despatched. Each man pre-empta a little patch of ground, which he levels off as best he can. The blankets are spread early, for the nights are always cool; and as the stars come out one may see here and there the gleam of pipes alight, as, half ensconced in his nest, the smoker woos the last and sweetest solace of the day before he tastes oblivion. Then sunrise is at hand again. So the days go.

CHAPTER III

OLD AMERICANS OF THE PLATEAU COUNTRY

PEOPLE rarely consider what an interesting experiment in the evolution of man was going on here in America when Columbus set out on his crazy adventure across the sea, nor how abruptly the experiment ended when the white race and the brown race met. For most of us the history of America begins in 1492.

We, of course, all have some notion, framed partly from fact, largely from fiction, of the original possessors of our continent. But, after all, I fancy that most of us only dimly realise that back of the wars which made the country free, back of the struggle with forest and soil



and forbidding wastes which made it rich, back of the bold adventures which made it known, stretch long ages, in which masses of dusky people, from one seaboard to the other, lived out their simple lives face to face with nature, won their way slowly through savagery to barbarism, and even here and there began to press eagerly through the portals which open toward civilisation.

Then from countries in which mankind had started earlier, or had more quickly scaled the heights of communal life, came the white man. The native advance was stayed, and soon the doors were closed forever upon a genuine American barbarism just shaping itself into a crude civilisation in favoured corners of the land. The Old World experiment in man-culture was grafted on the New, or, more frequently, replaced it altogether.

But here and there in the South-west

some small groups of brown men, called Pueblos or village Indians, the wreckage of the abortive experiment in primitive man-culture in America, still survive. These Indians are mostly in Arizona and New Mexico, living in quaint stone or adobe houses in far-away fertile valleys. or perched atop of great plateaus. Until within a decade or two they lived and thought and worshipped Powers unseen in just such fashion as they did, and in the very places where they were, when the Spaniards found them so long ago.

These Pueblo Indians are not to be confounded either with the savages upon the Atlantic seaboard or in the eastern interior, with whom much of our early national history is concerned, nor with the nomadic tribes elsewhere in the land. Some of them present to-day a significant transition phase in the advance of a people from savagery toward civilisation, whose

study is of priceless value in the understanding of the science of man.

But each year—nay, each month—brings new ideas, aims, and needs into the simplicity of this native life. Old traditions, old customs, old aspirations, are fading swiftly and surely in the presence of the white man. It is humiliating, not only for an American, but for any educated human being, to realise that in this great, rich, powerful United States, boasting ever of its general enlightenment, there is neither the intelligent public spirit nor the sustained private devotion to the wider aspects of science to secure the myths and traditions and lore of these wonderful people before this page now open upon the Story of Man shall be closed forever. For nowhere else upon this planet does this particular illumining phase of human life exist, nor will it come again. There are many fields of science

in which it does not make very much difference if the work which is waiting to be done shall wait a little longer. A decade more or less is of little importance in the end. But here delay is fatal.

The school-houses near the Pueblos, the new requirements in food and dress, the new conceptions of the world, which begins for them to reach out beyond the cliffs upon the far horizon—these all may be very important to the material welfare of such waifs from the past, with the new world crowding in upon them. But it means the speedy extinction of old customs, in life and worship and ceremonial, which still are full of the spirit and practice of a primitive culture. It means that all natural things and happenings in their out-of-door world will soon lose their spiritual impress, and that the quaint myths out of forgotten centuries will fade with the old folks who still may cherish

them. When such people get on cotton shirts, need coffee and sugar, want rum, and begin to name their sons after the Presidents, they will not continue long to send messages to the gods by rattlesnakes, nor propitiate the elements by feathers and songs.

The Bureau of Ethnology in Washington has done admirable work already. Cushing, Bandelier, Lummis, Stephen, Matthews, Fewkes, Mrs. Stevenson, Hodge, Holmes, Dorsey, and others have rescued much. But the work should be more extended, more sustained, more amply supported, and must withal be quickly under way.

The surviving Pueblo Indians are widely scattered now. There are several villages grouped along the valley of the Rio Grande and its tributaries, which are readily visited from various Santa Fé railroad towns. The primitive old settlements, Acoma and Zuni, lie but a few

miles off to the south of the railroad, while the Hopi villages, far away to the north, in the heart of the Great Plateau, are at the end of a more strenuous journey across the desert.

The later chapters of this book will afford some glimpses of these quaint relics of the early Americans and suggestions of the places from which they may be most conveniently reached.

The Navajo Indians are in many ways as interesting as the Pueblos, and are typical of a quite different phase of aboriginal life, and one which was most largely represented in America at the time of the discovery.

The Navajo country lies in the northern belt of Arizona and New Mexico and may be most easily entered from some of the Santa Fé railroad towns upon the south or from the Mancos region in Colorado on the north.

A Navajo Hogan.



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The Navajo are pastoral folk, herding sheep and goats and horses over their great arid ranges, raising corn and a little grain in the moister bottom lands, living in low earth-covered huts, called hogans, in the winter, while in the summer they build bough shelters or wickiups near their fields and stock ranges. They are notable blanket weavers, self-supporting, and, while nominally confined to their great reservation, are scattered out beyond its borders in all directions. They have been from the earliest times raiders and plunderers of the Pueblo and Mexican settlements, and are still often aggressive and domineering to their neighbours.

There are rich Navajo and poor ones; there are dignified, impressive, noble figures among them. Altogether they are among the most interesting of the aborigines who live in the old fashion, hold to the old deities, and maintain a degree of

self-respect and independence in the face of the blighting influences of civilisation which is noteworthy and admirable.

While the Navajo are peaceable and in their fashion hospitable to the wanderer whose aims and purposes in their land are comprehensible to them or unsuspecting, they will, themselves unseen, keep a close watch upon your movements as you ride day after day over what seems a tenantless waste.

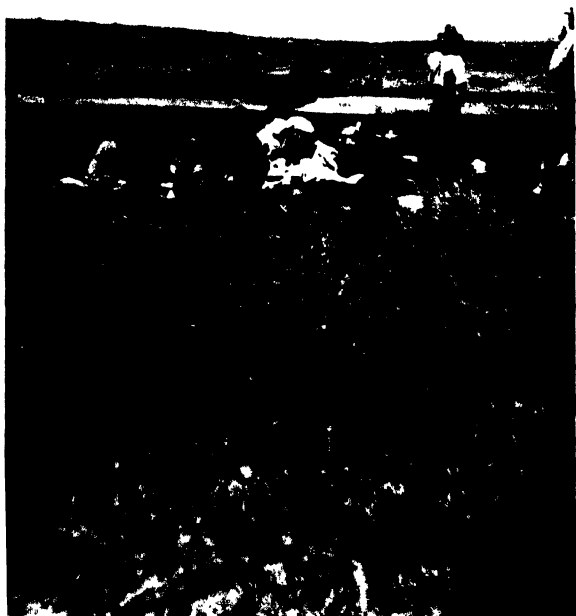
Sometimes a few lusty, well-mounted fellows in gaudy blankets will dash in upon your camp, whooping and shrieking, draw up a few feet away and sit gazing at you, or sternly demand your business. It is regarded as good form in the best white circles of the frontier to maintain for a time under these circumstances an air of absolute inattention to this demonstration. It would be as difficult to indicate the apt moment when you cease

to ignore and become aware of the presence of visitors, as it would be to write a formula for the not more imperative social graces of the town. But if you have not winced at the startling and uproarious advent of your guests, and seem to have business and know how to attend to it, your visitors will doubtless alight with alacrity at your invitation, sometimes without, smoke all the tobacco you will give them, eat all that is left of your meal no matter how much or of what kind, smoke some more, and then silently ride away, or in hope of a breakfast camp beside you for the night. Time is not pressing to the Navajo, and a day with a solid meal and tobacco in it is to him a day well spent.

The Navajo will not tolerate mineral prospectors upon his reservation if he can help it, for he knows as well as we do that the day on which valuable ore shall be discovered in his domain is the day which

sounds his doom. So if you can assure the Navajo that you are no gold seeker in his land, and while insisting upon your right to go wherever you choose, are also mindful of the rights of the natural lords of this desolation, you may drink from his springs and water holes; negotiate fodder from the meagre patches which he tills; buy a sheep from his flock if you are clever at bargaining; watch the women weaving blankets in the shadow of a scrawny tree or under a summer hut of boughs; and now and again you may be permitted to stand by at weird dances or sit the night out at the uncanny ceremonies of the medicine men.

There are a few Utes still upon their dwindling reservation in southern Colorado, awaiting extinction at the hands of a beneficent government. A few Pah Utes are scattered in southern Utah and northern Arizona. A small remnant of



Navajo Visitors in Camp.

the Havasupai still live upon their farms at the bottom of one of the smaller chasms which open upon the deeps of the Grand Canyon of the Colorado River. On the western borders of the great highland, the Wallapai are gathered. In the country which stretches southward from the plateau and within the borders of New Mexico, the wreckage of the fierce Apache is held in qualified durance upon a Government reservation. But it is especially the Navajo and the Pueblo, lingering types of the nomadic and the house-building barbarian, whom the wanderer upon the Great Plateau most often encounters to-day.



CHAPTER IV

UNDER THE SPELL OF THE GRAND CANYON.

THERE were ten of us when we started—three white men, one Navajo, two horses, one pony, one broncho, and two mules. We had been busy for several days padding pack-saddles, mending blankets, cleaning guns, and laying in our stock of food—flour, sugar, baking-powder, bacon, rice, oat-meal, and dried fruit.

“Adios!” “Good luck!” and we turned our faces westward. It was the Alamo ranch of the Wetherills at Mancos, in south-western Colorado, the time July, and we were off for that glorious plateau country through which the great Red River of the West has cut a series of

profound chasms and desolate valleys, known to the world as the Canyons of the Colorado River.

People who saw the Grand Canyon in the early days left the Santa Fé Railway at Flagstaff, and after an all-day stage ride over a shoulder of the San Francisco Mountain, across a small corner of the Painted Desert, and through the majestic pines of the Coconino Forest, alighted, tired but expectant, in a little camp of tents close upon the brink of the Canyon.

To-day the tourist is conveyed by a branch of the Santa Fé Railway from Williams, Arizona, to a modern, picturesque, and most comfortable hostelry, El Tovar, at the head of the Bright Angel trail a few miles below the old camp, where he commonly lingers for a day or two and then the busy world reclaims him. Those who seek the wider outlook upon the vast amphitheatre at the head of the

Grand Canyon are carried by stage a dozen miles eastward through the great pine forest to the quaint and cosy Grand View Hotel which fosters longer sojourn.

But wherever he may be and which ever way he came, he who lingers here in the presence of this stupendous and alluring episode in world-making, sooner or later becomes conscious of a haunting desire to know what sort of land it is of which he catches fitful glimpses across this bewildering, palpitating space. No sign of a human being ever comes across to you, it is much too far for sound, and you wonder whether the tiny greenish uplifts upon the farther brink can be more than saplings. And where does it come from, that broken streak of water shimmering between the cliffs, and now and then roaring up at you on the wind like the great mad river it really is, a mile beneath? It seems to come out of a red wall some twenty miles

to your right. But over that and across a narrow gleam of desert rises a hazy line of grey cliffs, with a faint blue mountain dome beyond, a hundred miles away. Close under this, they tell you, the great river is coming down, already buried deep between gigantic walls. You follow its course toward the west through a maze of temples and pinnacles and towers, until these merge into the illimitable blue of the sky, or are lost in the fading tints of sunset.

This, then, is why our faces are set westward. We want to see where the old Rio Colorado comes from and where it goes. We want to pluck out the heart of its mystery in those hidden hundreds of miles of awesome gorges. We want to wander in the country beyond the river which the pioneers have told about and where the geologists have conjured from the rocks such impressive secrets

of the world's workshop. And we want to soak in Arizona sunshine and revel in Arizona skies, and sleep under the stars, which are so bright and clear that they cannot be very far away from Arizona.

The Colorado River is formed by the junction of the Green and Grand in south-eastern Utah. Its upper foaming stretch, running in the Cataract Canyon, is about fifty miles long, and from thirteen to twenty-seven hundred feet deep. At the lower end of this the Fremont River comes in from the west. When Powell came down the Colorado in his memorable exploring expedition, his men were not pleased with this tributary, and named it the Dirty Devil, a name which in local parlance clings to it still. Here the walls of the canyon break away on either side giving access to the Dandy Crossing.

Below this the walls close in again to form the Glen Canyon, one hundred and

fifty miles long, but bordered by lower and more broken cliffs. Into this segment of the canyon the San Juan River enters close at the northern base of Navajo Mountain. The Colorado can be crossed at three points along the Glen Canyon—at Hall's Crossing, near the mouth of the Escalante, at the Hole-in-the-Rock Crossing, near by, and at the Crossing of the Fathers—below the entrance of the San Juan. These crossings are now little used except by miners who pass here to reach placer beds along the stream.

At its lower end the Glen Canyon pierces the cliffs, the Colorado receives the Paria from the west, and runs for a mile or so sedately in the open. Here is Lee's Ferry, where a large boat carries across the few horsemen and teams which come this way.

But the walls close in again, and for sixty-five miles the river is closely bor-

dered by cliffs from two to three thousand feet high. This is the Marble Canyon. At its foot the Colorado Chiquito—the Little Colorado—enters from the east.

From this point until it sweeps out upon the desert, more than two hundred miles away, the Colorado runs at the bottom of a great valley from four to twelve miles across, sunk from three-quarters of a mile to a mile and a quarter below the surface of the great plateau, and bordered by an endless succession of vast rock amphitheatres, with gorges and canyons reaching a short way back from the valley, while from its depths and along its sides rise graceful, majestic, tapering buttes in infinite variety.

This rock-walled valley of amphitheatres and buttes, wonderful in color beyond all possibility of description is called the Grand Canyon of the Colorado River. Here a large tract on both sides of the

river has been sequestered as a National Forest Reserve.

We headed across the Great Plateau by way of Bluff City on the San Juan River for the Dandy Crossing.

After nine days of steady travel, across arid mesas, down long and burning valleys, skirting the brinks of dizzy cliffs, scrambling across gorges, and winding in and out among rocks and buttes and piñons, a sudden turn of the trail brought us upon the crest of a low bluff, with the Colorado River at our feet, sweeping on to the south. This was the Dandy Crossing, and the first sign of humanity since we left Bluff City, seven days before, was a rough cabin on the far side of the river, here about one-eighth of a mile across. We drew up the caravan, fired a shot in the air and waited.

Presently three black-clad figures issued from the cabin, filed solemnly around in

front, and squatted in a row upon the ground. Then we both waited.

The black row brooded motionless. Presently we caught faintly, "What ye want?" "We want to get across; send over the boat." "They ain't no boat; ye can't git over."

This was pleasant. The nearest other available crossing was ninety miles as the crow flies, and full thrice as far as mules must go.

At last we gathered amid the roar, "They 's a skiff somers upstream, and mebbe ye kin git 'er."

So we scrambled for three or four miles along the shelving rocks at the river's brink, the cliffs towering a thousand feet over us, and then stopped, clinging as best we could to the last shelf upon a wall which rose sheer from the water. But we had sighted a hovel on the other side, and presently hailed with



joy a woman clad largely in a sun-bonnet.

"They is an old boatyar," she shouted "but I ain't strong enough to git 'er acrost."

Night was at hand, so we turned back to a less precipitous place where our stock could forage, made camp, and sat in council.

The river is big, it is broad, it is muddy, it is swift, and even in its quieter places sullen and forbidding. Great smooth swirls come and go upon its surface; it swishes viciously past the rocks and bushes on the brink. And it has a bad reputation. It drowns people and it drowns stock. It often claimed, but fortunately lost, tribute from Major Powell's plucky little company in 1869. Nothing short of human life appeased it when Colonel Stanton and his men went through the canyons twenty years later. The folks who know it best,

the cattlemen and the miners, dread and hate it. "She's a durned, cussed, ugly devil, and ye'd best not monkey with 'er," said one of our native councillors who knew.

But we thought that we would make an attempt anyhow, so one of our number mounted our veteran horse and plunged in. There was splashing and turmoil in the water, horse and man disappeared, and when, in a few seconds, the rider was dragged ashore in grieved surprise, and the horse scrambled up the bank a hundred yards below, trembling and snorting, we were ready to concede that the task before us was not what in the juvenile vocabulary would be called a "cinch." Then we had supper, and slept upon the situation—and the rocks.

In the morning, one of us crawled around the cliff and along the boulders far up the bank, secured a stranded log, and

floating and swimming with the current, finally reached the other side.

The boat was an old ramshackle, leaky, flat-bottomed, ten-foot skiff, with patched and clumsy oars, but in small loads we got our saddles and packs across, and then, after a careful reconnoissance of the banks on both sides for a safe entering-place and landing, we tackled the stock.

None of our animals had been tried in deep and rapid streams. Indeed, neither they nor our Indian, both children of the desert, had ever before seen so much water. It was evident from our first attempt that if we pushed them off into deep water to take their chances, the animals would either scramble back again or drown. The only thing to do was to tow them over, one by one. This would have been a more agreeable undertaking if the oars had been less nondescript in form and less fragile, if the boat had

leaked in fewer places and in less abandoned fashion, and if she had n't threatened to fall to pieces every time the oarsman pulled unequally upon the sides.

It would make a long list if one were to set down all the surprising things which a horse or a mule will undertake to do when, with a rope around his neck, held in the boat a rod or so off shore, he is suddenly pushed off a steep bank into deep water. He tries to go to the bottom first, but he is too buoyant for success at that; then he tries to get back to the bank, but the rope pulling from the boat and shouting men ashore brandishing clubs discourage that. He surges right and left, he snorts, he splashes, he groans, and when at length he realises that he can't possibly get ashore again, he concentrates all his hitherto diverse purposes into a fixed intention to get aboard the boat.

He has now been hauled close astern,

and has lost all notion of the shore. The oarsman meanwhile is pulling madly toward the other bank, the whole circus sweeping every second down the stream. With every lurch upon the rope the joints in the crazy craft open, and the Colorado River seems determined to get aboard along with the horse. Floundering up and down in the struggle to raise his fore feet over the stern, his knees thump against the outside of the boat. He swims first around one side, then around the other, as far as the short rope will let him go. He rolls on his side as a vicious whirl in the water catches him, and seems to lose his bearings. His eyes bulge, his breath grows short, he groans rather than snorts, and at last, when the man sitting astern with the rope raises his nose over the thwart, with a great sigh he gives up and swims along behind, blowing and puffing and with strained eyes, but

quietly and smoothly. The fight is over.

In this lull in the panic we secure evident recognition of words of cheer and encouragement with which, even in mid-stream, we strive to re-establish claims to friendliness and good-will so rudely strained by the deep damnation of that pushing off.

Presently the boat begins to slew around. The oarsman cannot keep her on the course headed for a rocky point far down the stream upon which and nowhere else the landing must be made, because of quicksand at every other place. It is evident in an instant that the beast has caught sight of the far shore, and regardless of the boat, is heading for it. So the rope is payed out and let go, and he bears away gallantly for the point.

It was fortunate that the first horse

which we piloted thus across let us drag him nearly all the way, because we secured for him the proper landing, where he and the others, as one by one they joined him, stood as landmarks for those which were to follow. We had a distinct and variegated campaign with each animal, but the lines of the story fall much the same in all. At last we got them safely over, and gratefully returned in one piece the gallant craft which saved the day. We had lost a few illusions about the ease of primitive travel on the frontier, but we had gained a distinct preference for bridges, and we had conquered the Colorado.

Then we head away westward again up the nearly dry, rough wash of the Crescent Creek or Lost Gulch, and are soon out upon the plateau close to the eastern slope of the Henry Mountains. We skirt the northern spurs of the Henrys, entering

the midreaches of the Dirty Devil Valley among outlying Mormon settlements.

Now, day after day, the way leads west and south through great gashes in the ledges of lofty plateaus, past cliff-girt mountain vales, up the long stretches of the Sevier, a river whose waters never reach the sea. At last we climb the height which divides the waterways leading back to the salt-lake basins of Utah from the summit sources of the Kanab and the Virgen, children of the great Colorado.

As we cross the divide we are between two great tables which rise a thousand feet or more above us to the right and left. These are the Panságunt and the Markágunt plateaus, standing nine and ten thousand feet above the sea.

The Kanab Creek has cut a rough winding gorge down through the cliffs and terraces which mark the descent from the high plateaus southward to the great





bench of the Colorado. In this we clamber down the marvellous series of terraces sloping upward to their edges, clearing at a leap ledges which it took a thousand or perhaps a hundred thousand years to build, and as many more, mayhap, to wash away again. How we and our mules flaunted our heels in the face of Time that day!

If we were geologists, we should check the ledges off as we descend—Eocene, Cretaceous, Jurassic, Triassic, and out upon the Permian. But being just common folks, they may be for us the Pink Cliffs, White Cliffs, Vermilion Cliffs, Brown Cliffs. I will not try to describe their majesty, nor the weird forms and the gorgeous colours with which in the lower series they are glorified. At last we come down upon the lowest of the terraces, the Vermilion Cliffs sweeping away right and left, and into the little hamlet of Kanab,

the last Mormon outpost in southern Utah, close upon the northern line of Arizona.

The Grand and Marble Canyons cut the north-western corner of Arizona completely off from the rest of the Territory. Except by Lee's Ferry, and the long, hot road which leads to it, or by a far western route, this corner is inaccessible from the south. It looks small enough upon the map, but it is rather larger than the State of Connecticut, and save for a few scattered cattle-shacks, has no human habitation.

Over the middle and western portions of this barren northern Colorado bench, where in five thousand square miles there may be a dozen springs and fickle water-pockets, bands of wild horses roam, defying pursuit, worrying more docile stock, and eating grass and drinking water which are none too plenty for

cattle and for better mannered horses. But a fine show these splendid creatures make of it when, from ten to fifty in a bunch, they catch sight of an outfit like ours and line out for a run.

For the next two weeks we wander over this stretch of the plateau which lies along the northern side of the Grand Canyon, among extinct volcanoes, across sinister lava flows, and along dry shallow water courses, which once were tributary to the Colorado River, while it too was a broad leisurely stream before the carving of the great inner gorge.

Lying along the whole eastern side of this district and forming a large part of the most imposing segment of the northern wall of the Grand Canyon and the western wall of the Marble Canyon esplanade, is the Kaibab Plateau, or Old Buckskin, as hereabouts it is familiarly called. It is the Kaibab which looms up before the

tourist on the southern side of the Grand Canyon as he stands upon the brink at El Tovar or the Grand View Hotel. It is from seven to nine thousand feet above sea level, stretches a hundred miles north and south, and at its widest is somewhat more than thirty miles across.

We now turn to the great Kaibab. Everybody had told us that it is a paradise up there in the forest, and we found it true. There one may wander for days in an open forest of noble pines; or along exquisite glades, green-bottomed, where the quaking aspen cheers the eye, and edged with the delicate spires of spruce and fir. Bright flowers bloom in long forest-sequestered parks. One may even hear water gurgle here and there among the rocks, a sound not very common in Arizona. Deer are plenty and very tame. We chased them among the trees as one might runaway cows. But as we were not

out to kill things we left them mostly to their own devices.

However pleasant it may be, after the hot weeks of travel in the open, to loiter under the pines and among the glades in the heart of the Kaibab, one cannot long resist those hazy glimpses caught here and there between the trees into far blue depths upon which shadowy outlines of temples and minarets, and nameless dreamy masses in soft rich colours, float and gleam. However deep in the forest or cosy beside the camp fire at the edge of one of those matchless glades, the spell of the great abyss hovers about one and lures him to its side.

We ride for a day and crawl over upon a great peninsula of rock—Powell's Plateau, they name it—which looms above the heart of this under-world, and revel in the vision. We ride and camp and ride again out and out for miles to the last

rock pillar which stands poised on Point Sublime, and linger hour after hour in the thrall of a waking dream.

Then away we go again—for it makes one restless, this mighty thing of transcendent beauty—and after many miles reach a towering promontory around which the river makes a great curve as it emerges from the Marble Canyon and sweeps into the vast chambered space below. This is the vantage-ground, locally known as Greenland Point, infrequently visited by parties of the nearest Mormon villagers for a view of the Grand Canyon. Two projecting cliffs upon this point, known to the geologists as Cape Royal and Cape Final, loom up across the Canyon from Grandview.

When Major Powell and his men came floating down the river they seemed a little remorseful for the mood in which the Dirty Devil had been named, and as

they reached the mouth of a side canyon a few miles below our Greenland Point, whence issues a sparkling brook, they were inspired to call it the Bright Angel. The new hotel, El Tovar, at the terminus of the railroad, looks up this winding gorge from the southern rim of the Grand Canyon, a dozen miles away.

It was at a little spring close under the edge of the summit ledges in which this happily christened streamlet finds its source that we lingered longest in camp, loath to relinquish the shelter of the noble forest and lose the glimpses of wonderland down through the corridor of cliffs and towers which the Bright Angel has fashioned in its mad rush to the bosom of the Colorado.

But there are hundreds of hot miles between us and home, and so at last, after some days of forest wandering, we turn our faces toward the eastern

façade of the Kaibab, heading for Lee's Ferry.

Here we secure a small boat and work our way toilsomely up into the lower boxes of the Glen Canyon, trying to realise as we drift back again, the toils and dangers and recompenses of those who have floated through all the long stretches of the canyons—Powell and Stanton with their parties, the story of whose explorations has been told in most complete and entertaining fashion by Dellenbaugh, himself one of the bold adventurers, in his *Romance of the Colorado River*.

From the ferry crossing one looks down upon the upper reaches of the Marble Canyon, its walls steadily rising until they close in perspective over gloomy depths.

It is a thirsty ride of seventy-five miles along the Echo Cliffs from Lee's Ferry to water at the trading-post at Willow

Springs, whence the way leads on to the Mormon city of Tuba, now a Navajo agency, and to the Pueblo Indian ranches in the valley of the Moencopie.

I have not woven into my wayside narrative the human interests passing in and out through the story of the scarred, insistent earth which so inevitably dominated our waking hours. But we stopped beside forlorn hovels, whose Mormon inmates had memories clear enough of better times in other lands, and hopes pathetic and dim of a brighter day for the Chosen. Cattle-men, weeks from the sight of other faces, were glad to leave their lonesome cabins among the pines and ride for miles beside us to hear our story and to tell their own. Dusky forms, mostly of Pah Utes and Navajos, would dash out upon us or suddenly materialise at our camp fires in the remotest places, and in mutual stares and

smokes and pantomine we always won our way to good fellowship and confidence.

From Tuba the way is not far to the eastern fringe of the Coconino Forest, and across the uplands to the range of the tourist and the hotels at the Grand Canyon, whence we were lured at the beginning of this chapter by glimpses of the land beyond.

The Cataract, the Glen, and the Marble Canyons, and that portion of the Grand Canyon which lies below Powell's Plateau, are gorges of overpowering grandeur, but they are perfectly comprehensible. When one has won his way along and across them, and now in sun and now in shadow has studied their sombre walls, he can easily enough describe them and recall better-known canyons and gorges which serve fairly well by comparison to illustrate their extent and majesty. But face to face with this other, comparisons are

futile, and figures and estimates seem impertinent. Each change of season, each new day, and every passing hour reveals new elements of grandeur in the cliffs, fresh phases of transcendent beauty in their colours.

The great Canyon is shy of the camera, and the marvellous blue haze, now luminous, now faint, now shot with purple as the light falls red upon it at sunset, is always there holding its reserve inviolate. Single cliffs and towers of rare strength and beauty may be secured upon your films, but the Canyon never.

The first white men to look upon the Grand Canyon were some old Spaniards, who went out from the Moqui villages in 1541. A few of them scrambled down the cliffs a little way and took a world of satisfaction, when they got back, in pointing out to their wiser comrades who had staid above, some pinnacles of rock

partway down apparently as large as a man, but which they triumphantly declared were bigger than the great tower of Seville.

Major Powell, who knew the Colorado well, says impressive things, in very charming fashion, about the Grand Canyon. But he finds the task perilously exacting, and at last, yielding to the frenzy of comparison, plucks up Mount Washington by the roots to the level of the sea, and drops it head first into the abyss, calling you to witness that the waters still flow between the walls. Anon the Blue Ridge is plucked up and even hurled into the canyon; but there is room aplenty still.

Charles Dudley Warner, wearying of description, stows away the Yosemite in an inconspicuous side gorge, and defies you to find it. Then he summons dreams of the Orient, calls Babylon back across the years, fixes his eyes upon a far, ærial

heaven which fades at last into visions of the New Jerusalem, and so, altogether, comes off with flying colours from his skilful, lusty tilt with the impossible.

A wise and sympathetic, as well as learned description of the Grand Canyon and its adjacent country is that of Captain Dutton, unfortunately buried for most readers in a bulky report.—Vol. II.—of the United States Geological Survey.

After all, one may be glad if he can win the conviction that in a world so strenuous with obvious duties and conscientious impulses, no man has *got* to describe the Grand Canyon.

But if one would really know it he must not hasten away. Many interesting journeys along its borders, afoot and ahorse, are feasible from the hotels, especially from Grand View. One may ride from Grand View north-eastward for sixteen miles among the piñons of the Coconino

Basin and peer into the shivery depths of the narrow gorge through which the Little Colorado sinks into the arms of its big brother from the scorching sands of the Painted Desert.

One may visit little groups of cliff houses in the gullies which lead from the basin up into the northern fringes of the forest or along the summit ledges of the great valley. One can grope his way into limestone caves far down the cliffs, or may wander for miles along the brink of the canyon, winding in and out to head the vast amphitheatres which face the abyss, picking up old arrow-heads and fragments of archaic pottery.

A ride of some sixty miles south-westward will bring one to the bottom of the canyon of Cataract Creek, where a dwindling relic of the Havasupai Indians awaits extinction in poor wickiyups among their meagre corn-fields and melon-patches.

It is not easy, where every outlook is sublime, to select a single point upon the canyon's brink of which one can say, this is, after all, the best.

The outlook from El Tovar or from the points near by is impressive, almost overpowering, because one gets here his first glimpse which is straight down into the vast abyss.

One of the most comprehensive views is a long, high spur on the south side, some miles below the railway terminus and accessible from Bass's camp. This looms far out over the deeps between two mighty gulfs and commands a stretch of many miles of the Canyon on either side.

The outlook from Grand View is, however, in many respects the most alluring of all since it commands from the highest point upon the southern rim, not only the vast amphitheatre at the entrance of

the Little Colorado, but glimpses of the Painted Desert, the Marble Plateau, Echo Cliffs, and the exquisite dome of Navajo Mountain, upon the far northern horizon.

Do not go before you have seen the great valley filled to the brim with seething billows of cloud, and watched their fading under the touch of the early sun. You must see a shower march across the vast spaces below, leaving trails of heightened colour upon the streaming faces of the cliffs. From above you should see the night close in, and strain the eyes to catch the outline of familiar forms grown faint and far and strange. And when the moonlight falls full into the depths, say if you can that down there it is still a part of the earth you know.

You should scramble down the trails and learn that it is a real river foaming and tossing over the rocks. But you will not win your way to the inmost spirit of

the place unless you spend a night alone down in those awesome chambers—as far out of the world as you can get, it seems, and still hold the link intact.

The going out of the day from your seclusion and the splendour of the world's night far above you, the unearthly sweep of the moonlight across the faces of the awful cliffs which hem you in, and the coming of the morning, ushered in upon your solitude in mysterious fashion from some invisible source—these and the memory of a hundred weird happenings of the night, which I may not linger to set down, will seal the enchantment when, again stretched in the friendly shade of some gnarled old cedar close upon the brink, you let the hours slip by in dreamy visions which each moment weaves afresh out of the mass and colour of cliff and pinnacle and gorge and their veil of ethereal blue.

So at last we have learned where the old Colorado comes from, and have seen it sweeping through dwindling gorges out to the desert of the far South-west. The mystery of the country beyond the river has been merged in pictures of a summer holiday. We know that those tiny uplifts over there upon the farther brink are not the puny twiglets which they seem, but gigantic pines, through whose swaying tops the wind moans and sings. We could even prove, "an we would," out of its miles of splendid cliffs, that the Grand Canyon is, indeed, the masterpiece of world sculpture. But when the last is said, the spirit, as at the first, is swayed most of all by its elusive, unearthly beauty. Perhaps Mr. Warner, after all, was wise to drop halting phrases and turn to visions of the New Jerusalem.

Our way homeward leads past the Hopi villages, where we linger through

the weird ceremonial of the snake-dance at Walpi. Thence the hot trails lead us for eight days over the wide stretches of the Navajo reservation, around the western spur of the Carriso Mountains, across the San Juan River, along the western front of the Mesa Verde, in whose recesses the cliff-dwellings are concealed.

And so we straggle into the ranch. There still are ten of us, but it is in part another ten. For of the six sturdy, willing beasts which started on the way, only two have weathered the privations and hardships of the thirteen hundred toilsome miles which make up the record of our summer wandering.

The hardships of the way are soon forgotten, but in the lulls of busy life the memory is fain to conjure back the spell of those serene deeps, which woven once, nor time nor space shall ever break.

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CHAPTER V

A LITTLE STORY OF WORLD-MAKING

IF one lingers for a while beside the stream of tourist travel which surges in to the Grand Canyon at El Tovar stares, exclaims, gasps, squeaks, chatters, even weeps sometimes, and then slips back whence it came, he will hear first and last a great deal about how the Canyon "happened."

One may read all about it and more too, in the descriptions of passing newspaper correspondents diverted for a day from the main line of the Santa Fé at Williams. These are, however, not infrequently so bathed in an atmosphere of personal impression and so charged with more or less lurid comparisons that signi-

ficant details are lost. Many learned treatises on the geology of the Canyon are quite accessible. But the temptation is strong to sum up the opinions of the experts in simple fashion for the visitor who seeks the story for itself but likes his science tempered to the spirit of his holiday.

If I venture here to tell the story of the Canyon's making in simple impersonal fashion I must assume that the reader has already wandered to and fro at leisure upon the "rim," that we have made our way down the colossal terraces by one of the well made trails, preferably at Grand View, and have come at last to the camping place upon a great sand bar beside the river. We dispose of our frugal meal as the night creeps in upon the vast abyss and its chambered recesses. We have made a fire of river driftwood, and here, if ever, the grim walls looming far up on

either side, a clear-cut strip of starry sky between, and the swirl and roar of the river close at hand, is the time and place for a story.

There are so many kinds of story which a camp-fire invites that one might hesitate in choice. But the spirit of the situation and the hour lead most directly to a sober tale of world-making which geologists have read out of the stone story-book opened wider in this land of the great plateaus than almost anywhere else on earth.

I have upon my writing-table, holding down a pile of unruly papers, the oldest relic of America which human eyes have ever rested on. It is a rough fragment of rock which I broke off from a long, low granite ridge, a part of which is now called the Laurentian Hills in Canada—the first land to emerge from that universal, shoreless sea which

once swept unhindered round the earth.

After the appearance of my paper-weight—the avatar of the North American Continent—some scattering rock islets and ridges got their heads also into the sunlight here and there, along the line of the Appalachian chain, among the tips of the Rockies, and over the central and northern regions of the future great republic.

Then these rock islands, and others which the throes of the uneasy earth sent up to join them, and the shallow bottoms here and there, were pounded through ages by resistless seas, and powdered and weathered into boulder, pebble, sand, and silt. This wreckage filled in the borders of the land, and slowly built up, layer by layer, the bottoms of the interinsular seas. The layered ruin of the earlier earth was then baked by plutonic fires into new

rock, and again became the sport of the elements, and took new forms and places in the earth's foundation.

And so, after never mind how many millions of years, the continent of North America grew into some semblance of its present form. But for a long time the South Atlantic seaboard was under water; Florida was not; and what now we call the Gulf of Mexico sent a deep bay up the Mississippi half-way to the Great Lakes; while a vast inland sea, the Mediterranean of early America, stretched north-westward from the Gulf across the Rocky Mountain country, over the region of our great plateau, and far on toward the Arctic Ocean.

Just here the sequence of events grows dim as centuries file along. At any rate the great inland sea was gradually filled by the wash from its shores and by the water-borne wreckage of the hills in the

back country. Then it lost its connection with the sea, and became a vast fresh-water lake, or chain of lakes, with rather unstable bottoms, which rose and sank as the earth's crust bent and wrinkled. The shores and depths of this new lake were haunted by strange living creatures.

Finally the whole basin got filled up and dry, except for the water pouring down out of the northern hills. Thus a great new drainage area was formed, which headed far in the crumpled mountains to the north, and stretched off south-westward toward a mighty arm of the sea, of which the Gulf of California is the dwindling relic. This drainage area became in time the plateau country, and the new watercourse, the Colorado River, so noisily in evidence beside our camp, forswore its inherited fealty to the Atlantic, long maintained through the Gulf of Mexico,

and henceforth paid loyal tribute to the Pacific.

Please remember that I am just telling the story as I have gleaned it from the students of the rocks in book and lecture and in far-off camps among the hills. So if a million years or so should slip away unheeded in my tale, or if the shores of nameless, vanished seas should in my memory break in wider beach-lines or a little farther inland than in fact they did, I claim the license of way-side narrative.

It is tiresome to try to conceive of the long reaches of time during which this great inland sea was filling up, and it is fortunate that the geologists who deal in such lordly, lavish fashion with the years, handling them in parcels of a few millions or a hundred millions or so, finally lump them together under *ages*—Carboniferous, Permian, Triassic, Jurassic, Creta-

ceous, etc., names which are not insistent in the suggestion that they were, after all, made up of hours and minutes, which only one by one have slipped away.

But if you go out into the plateau country five hundred miles from any ocean you will not doubt this inland sea. For you may ride for hours along shaly rock escarpments on which the ripples of the ancient shores are as plain and plenty as ever you saw them on the Jersey coast. You can pick up shells too, which at least suggest clams, stone though they be to-day.

In the northern part of the plateau country, now cut off from the rest by the Uintah Mountains, the bones of monkeys and crocodiles, of birds with teeth and three-toed horses, of sea-serpents—honour bright, I appeal to Marsh and to Osborn—and of a motley lot of named and nameless uncouth, ludicrous beasts, are piled pell-mell together in the washes, or half

buried in banks and cliffs and weathered buttes which once were the shores and bottoms of our slowly shoaling inland sea.

It is a pleasant memory which lingers with the writer, of an undergraduate summer spent in this region under the tutelage of Professor Marsh, who was so wise in the lore of these crumbling hills. Most vivid of all, perhaps, is the recollection of a long, hot week whose daylight hours were spent alone astride the shelving edge of a low weathered butte, with hammer and stone-chisel, pecking away the rock around the fossil head of a preposterous beast, something like a crocodile, I fancied, which once had floundered about in that old inland sea. Every day, as soon as the click of the chisel began, three huge grey wolves came peering over the edge of the bluff a hundred feet or so above me, and here they stood, alert, but silent, all



The Wily Coyote.

through the hot day. A hallo and a sudden wave of the hand would send them scampering off, but presently they were there again, attentive as ever to the strange thing below. It was a far cry back from my contemporaries upon the bluff, who seemed to have very little business of their own on hand, to the old inhabitant at my feet; and though we had n't much in common, we all got on very well together, and parted friends.

But I have lingered behind my story, for we have seen the old inland sea filled up, and a new great river, which will some day be the Colorado, sweeping down from the northern regions on its way to the Pacific. This stream bore great floods of water, and began to gather enormous quantities of eroded stuff from the lake-beds over which it passed. So that after this great basin, covering an area of con-

siderably more than a hundred thousand square miles, had been filled in, layer by layer, some two or three miles deep, at such an inordinate cost in mountains and at such a reckless expenditure of time, and the stuff had all got nicely packed and settled into good solid earth crust, the whole thing began to wash out again, to make new land somewhere else.

I don't know where it all went to, but in the later periods, at least, a vast amount went down the Colorado. But gone much of it is, especially of the upper strata, as you might see for yourself if you went over into southern Utah and northern Arizona, into the land beyond the Great Kaibab of which we caught some hasty glimpses in the last chapter.

You would get up on top of some of the upper strata of the rock which filled the inland sea, now forming what are known as the High Plateaus of Utah,

and bear off south toward the river. You would come off from these between the Markágunt and the Panságunt, down a series of gigantic steps hundreds of feet high, each the edge of one of the old upper layers, left exposed in miles of gorgeous, fantastic cliffs by the wear and tear and wash of the centuries. When you got down from the remnants of the top layers you would have descended over six thousand feet upon the lower level, whose surface has been exposed in huge patches over hundreds of square miles by the erosion of insatiate streams.

Even then you would not have reached the bottom of the inland sea. For you would make your way southward for forty miles across a rough desert country, on the top of what our learned friends call the Carboniferous strata, until you came to the brink of the canyon at its grandest part and nearly opposite to

the haunts of the tourists. If then you should descend the dizzy mile of Carboniferous cliffs and terraces to the level of the river, you would at last have reached the very bottom of our old inland sea, and gone a thousand feet into the rugged granite ledge beneath, which claims the kinship of age with my paper-weight from the Laurentian Hills. This granite ledge which formed the earliest bottom of the inland sea emerges from the under world within a few hundred yards of our camp upon the sand bar, and it may be seen from many points near Grand View, sloping up into the sunlight from beneath some layered remnants of the ancient sediment.

The secret of the great denudation and of this wonderful achievement of the Colorado in carving out of rock a series of canyons about five hundred miles long, and, in one place at least, more than

a mile deep, with a multitude of tributary chasms and gorges, is very simple when you know it. *The old lake-bed slowly rose.*

At first, the Colorado River and its tributaries, or some nameless monstrous ancestor of these, sweeping over the slowly rising surfaces, planed them down in most relentless fashion, and then began wearing out broad shallow stream-beds. But then the country rose more rapidly, and the water had to cut deeper channels in the rocks in order to get out and away to sea.

Owing in part to the wear of the water itself, but more to the ceaseless bombardment of the suspended sand which it bore from the up country, or picked up as it went along, and to the thump of pebbles and boulders which it swept on in flood-time, the river kept cutting down as the strata rose, until finally,





earlier floods and streams, gouged out by the Colorado and its tributaries, still existing or extinct, and withal crumpled and cracked and displaced in varied fashion when the earth's crust writhed, the old inland sea-bottom, now our Great Plateau, certainly has won through much tribulation the right to glory in its stupendous relics.

But, in addition to all the rest, a multitude of volcanoes and lava streams have at one time or another burst up through the strata here and there, some of them not so very long ago, leaving imposing mountains, building cinder cones, and deluging the land with molten rock.

That is my story. Its plot in years is long indeed. It exploits the forces which build and sculpture worlds. And if it lack the human touch which lies at the heart of the best stories, one yet may link the present to the past if he realise that

the swift turbid stream beside our camp still as sand and silt, is bearing the mountains to the sea; that the click of pebble against pebble where the water rushes over shallows, and the beat of rock on rock along the deeper bottoms, are slowly wearing stone to sand; that the great river is cutting its channel deeper and wider year by year, while the shower gusts and the frost are yet at work shaping this wonderland into those forms of grace and majesty which are the heritage of millenniums. The great inland sea is gone, but the ripples are on its beaches still. The strange beasts have vanished, but their bones cumber the ground. The earth's crust has ceased to heave and crack, but the crumpled broken strata rise in imposing hills and cliffs. The volcanoes are cold and silent, but the great cinder cones and lava beds are still sinister.

When we clamber back up to the sur-

face of the earth again in the morning, passing the rugged millennial marks as we go, we shall not fail to bear some uplift of spirit from this little sojourn with the world's masterpiece.



CHAPTER VI

A SUMMER AMONG CLIFF DWELLINGS

I FANCY that to most people the word archæology conveys suggestions largely of old Greece or Rome or Egypt, of fluted pillars and damaged friezes, or of statues whose heads and legs and arms have mostly gone afield—of these and sundry things which agents of societies and colleges dig up with subscription money, and write books about, or lecture upon with a lantern in a darkened room. At least if entirely candid, the writer must confess that this was the response which his untutored mental machinery offered to the chance suggestion of the word.

By this it will be perceived that the

writer is, as to archæology, one sitting in the outer darkness, and this is what he wishes to be clearly understood. For so only would it seem wise to record in haphazard fashion some phases of a summer's wandering among ruined and forgotten homesteads of the great Southwest, and a layman's conception thus derived of a group of prehistoric Americans who had finished their strenuous and narrow lives, and faded into tradition and myth before the Spaniards, zealous for God and athirst for gold, had penetrated to the heart of our continent, and even before Columbus had ventured across the unknown sea.

The "cliff-builders" lived in such queer places, built so well, and seem to have vanished so utterly, that by many they are regarded as the most mysterious of the American aborigines.

But those who know their World's

Fairs or who have read the results of Bandelier's toilsome researches, or who have turned the pages of the great reports of the Bureau of Ethnology, are aware that a good deal is known, after all, about the haunts and ways of the American "Cliff-dwellers," and that some shrewd guesses are current about their story. The heart of the story seems to be that they were sedentary Indians allied to the present Pueblos, some of whom were long ago driven to places of defence and concealment under stress of conflict with nomadic tribes, who built no houses, and have left no trace in the land across which they hunted the unhappy refugees.

Let us glance a moment at this land.

I suppose that few know which four of the commonwealths of the United States come together at one point in right-angled corners. The writer cannot truly say that these possessors of unusual geo-

graphic lore are greatly superior to the uninformed majority. But, in fact, Colorado, Utah, Arizona, and New Mexico do meet at one point, in one of the most lonesome and forbidding sections of the Great Plateau. And a few venturesome persons have travelled a good many hot miles to tickle their fancies by sprawling their anatomies into the domain of four at once of the units of this great republic. A glance at a map of the United States shows this unique relationship, and attention is called to it here only because this easily located point on the map is near the northern limit of a little-known and little-traversed district in which relics of the prehistoric American are accessible, abundant, and well-preserved.

If one takes a map of the United States drawn on such a scale that it is about seven inches from New York to San Francisco, and puts a silver quarter of

a dollar upon it so that the head of the alleged bird of freedom, looking toward the west, lies just over these four corners, he will have covered a tract considerably larger than New England, almost as dry as Sahara, and as rich in the relics of a vanished race as any classic country of them all.

The eastern border of the silver "quarter" lies along the slopes of the Great Continental Divide covering the sources of the Rio Grande. Its western segment bridges the awesome depths of the Grand Canyon of the Colorado, and edges close upon the foothills of the Wasatch range. The Santa Fé Railway traverses the lower third of the tract. Across its upper portion the San Juan River, muddy and treacherous, rolls sullenly westward through hot reaches of desert, and then rushing along deep gorges, merges at last into the great Colorado as it sweeps

and roars through its vast self-sculptured chasm on its way to the Pacific. Northward the great hills are piled confusedly together, guarding their treasure of gold and silver and jewels and coal. To the south the land stretches brokenly away toward Mexico.

All over this great stretch of country, so hot in its untempered summer sunshine that one wishes that he had not come, so bewitching in its skies and clouds and atmosphere and hills that not for worlds would he have staid away, are the ruined homes of the forgotten people.

One finds them at the doors of Navajo wickiups deep in the wilderness, where old women sit weaving blankets in the sun. One finds them hundreds of miles from the white man's dwellings or the brown man's haunts. Sometimes they are on high plateaus, sometimes in broad valleys, sometimes hung along the crags of well-

nigh inaccessible canyons, or perched, it may be, in dizzy security atop of some gigantic rock which rises sheer and solitary above the plain, over which it has kept so long unheeded vigil.

Some of the ruins are only crumbled piles of stone, half covered with sand or overgrown with grass and bushes and trees, which the untutored traveller would pass unheeding. Some of them have walls, often several storied, still upright and firm, or partly fallen in. Some, out upon the bare plateaus, are to-day imposing in their mass, with hundreds of stone chambers quite intact and accessible, or filled with the stone and mortar of other walls fallen upon them from story after story above.

Some of the forsaken dwellings are mere caves scooped out at the base of cliffs. Some are the natural or widened "blow-outs" on volcanic hills. Finally



The Making of a Navajo Blanket.

along the walls of the canyons, sometimes near the bottom, but more often far up their rugged sides upon shelves or caverns in the softer rock, one may see, scarcely visible against the grey bare surfaces, tiny stone boxes edging sheer upon the face of the cliff, or a series of these more conspicuous and strung along on various levels, with only a bird's or a squirrel's way in sight to reach them.

All these silent witnesses of folks that were will not greatly disturb the equanimity of the traveller, who, after he has learned from disappointing scrambles that relics are rare on the floors of the abandoned rooms, will from the saddle for a little look and wonder, and then pass on.

But there comes a time to the well advised and well-conducted wanderer when everything else on earth for a moment fades. He has ridden through miles it may be, of an aggravating jungle of

piñon and juniper, and has passed at last into a wilderness so desperate and so profound that all human habitation seems a thing of infinite remoteness.

Suddenly the horse stops. The smooth rock reaches, over which he has been making his way, have dropped before him, and he is on the brink of a chasm. The walls fall sheer at the top some hundreds of feet, then slope, then fall again to a shrub-clad bottom which stretches away into blue distance. This at first is all, and the grandeur of the scene alone commands attention. But slowly then out of the grey shadows of the farther side a picture is evolved, so strange, so confusing, so improbable, that one is disposed to wonder if the sun has not played him false, and the thing before him is not some weird delusion.

It is a great group of ruins perched midway in the opposite cliff, many sto-

ried, quaintly towered, with doorways and narrow windows still intact, or stout walls here and there fallen forward into the chasm, revealing chamber within chamber, tier upon tier, all silent, motionless, and utterly uncanny here in the heart of the wilderness. Here, where none comes except by chance a roaming Indian, who hurries in superstitious dread away; where naught lives but squirrels, rabbits, vultures, and coyotes, and some still crawling things, and where for hours no sound falls upon the hot, slumberous air—

But I have a little outrun my tale.

While the cliff dwellings are scattered here and there all over the region which I have bounded in silver, they are for the most part not large, and as single structures not very striking. But there is a district lying close about the meeting-point of Colorado, Utah, Arizona, and New Mexico in which not only the prehistoric ruins

of the plateaus and the valleys, but also those built in the dizzy recesses of the canyon walls, are imposing even to grandeur.

No part of this once widely inhabited region is so rich in these great communal cliff dwellings as a high plateau, thirty miles long and twelve or fifteen wide, situated largely in the Ute Indian reservation in south-western Colorado, and called the Mesa Verde. This great timbered upland, rising in rough, forbidding cliffs fifteen hundred or two thousand feet above the surrounding country, slopes gradually southward toward the San Juan River in Arizona.

The Mancos River, flowing south-westward to join the San Juan, at some remote period, has gouged out of the great rock mesa a series of wild canyons. These are now mostly dry, and, save by dim, rough Indian trails, almost impassable.



Cliff Houses in a Cave—Mesa Verde, Colo.

It is in the walls of these arid canyons so desperately aloof even yet, that the "Cliff-men" built some of their most elaborate and imposing fortress-homes. It was here in the hollows and on the plateaus above, that for years which no man to-day may number, they wrung a meagre subsistence from the parched soil, fighting meanwhile, as it would seem, for even this scanty foothold in the wilderness. And then they left it all to the squirrels and vultures and coyotes, to the wandering Ute and Navajo, to the lizards and the sun.

Nearly all of the cliff dwellings of the Mesa Verde have been vigorously, though none of them exhaustively, explored.

The delver among these ruins is early and continually impressed by the wonderful preservation of things of the most delicate texture; things which in most climates would speedily have rotted and crumbled, such as fabrics and feathers

and corn-husks and the tassels of the corn and fragile wood fibres. The climate of these regions is so very dry, and the remnants of household articles have been so absolutely protected from rain and snow in the deep recesses of the great caverns in the cliffs where the houses are, that the usual disintegrating processes of time have here been held largely in check.

It would make too long a story were I to enter upon a description of these great houses in the cliffs, or recount the vicissitudes of the explorer as he seeks for the old pathways along the ledges, or scrambles up the bare rocks, clinging to shallow grooves and notches which the old "Cliff-men" made so long ago, and which the wear of centuries has not yet effaced. Nor need I emphasise the toilsome nature of the explorer's task when he enters upon the search in the choking dust heaps

which the ages have strewn over all the ruins, and under the piles of fallen masonry, for the secrets of the burial-places. The sun is very powerful, the dust is insufferably annoying, the stones which must be turned are legion, and what is left of the early American himself, when you do get at him, is not a pleasing thing to behold, and may be hauntingly uncanny.

For any one who chooses now to gather them, the ancient pottery and other utensils of the "Cliff-" and "Plains-dwellers" have considerable value for purposes of sale to tourists and collectors. In some parts of this region it is the practice of the settlers, on Sundays or other holidays, to organise picnics to the ruins. And the rustic swain is wont to signalise his regard for his Dulcinea by digging for her out of the desolate graves what articles the chances of the hour may bring. She, cosily seated amid piles of broken pottery,

darting lizards and dead men's bones, smiles complacently the while upon the dusty delver from the chaste recesses of a sun-umbrella.

If, now, without further parley as to the details of the ruins and the vicissitudes of their exploration, we turn to the various things which the old "Cliff-dwellers" have left, many of which one may see for himself to-day upon the spot, and try to frame from them a conception of the masters of these homes, we shall find that a good deal may be read out of the darkness of forgotten centuries without special light from the torches of the professional archæologists.

He was a dark-skinned fellow, this old "Cliff-dweller," as his mummified remains show plainly enough. The hair was usually black, and moderately coarse and long. He was of medium stature, and the back of his skull was flattened by be-



ing tied firmly against a board in infancy, as among some races is the custom still. He had fair teeth, much worn, as the years grew upon him, from munching ill-ground corn.

It would be difficult to say from the articles thus far discovered just how much this prehistoric man was devoted to dress, or rather, to undress. A simple breech-clout was certainly in vogue, and there is considerable reason to think that this was, at times at least, the *pièce de résistance* in his costume. But parts of hide jackets, fur caps, blankets made of feathers tied on to a coarse net of cord, are also in evidence, and mostly preserved among the furnishings of the dead. A variety of sandals and other rude foot-gear has been found, some woven of yucca leaves, some braided of other vegetable fibres, some rudely constructed from corn-husks.

A certain passion for personal adorn-

ment and devotion to superstition is evident from the rough beads and the strings of bones and small shells which he wore, while amulets of turquoise or shell or broken pottery pierced for suspension about the neck are not seldom found. He brushed his hair with tightly tied bunches of stiff grass, with one end trimmed square, and his long coarse black hairs are clinging still to some of them.

The spirit of the age now prompts us to ask what did he do for a living, this dark fellow in scanty attire, with a tinge of vanity and superstition?

He was, first of all, a farmer. He raised corn and beans and gourds in the thin soil of the mesas, or upon the lesser slopes, which still show traces of scanty terraces. Corn is frequently found, sometimes still on the cob, sometimes shelled off and stowed in jars, while corn-cobs and

corn-husks are scattered everywhere among the rubbish. The beans and gourds are less abundant. The gourd seeds were sometimes carefully stowed away. The only farming implements which have been found are, so far as I am aware, stout sticks pointed or flattened at one end, quite like the planting-sticks still in use by primitive agriculturists.

It is evident enough that in his time, as now, his country was very dry, and water had to be carefully husbanded. One finds here and there traces of shallow reservoirs and what seem to have been irrigating ditches. Sloping hollows in the rocks near the houses are not infrequently dammed across their lower ends, apparently to save the melting snow or the waste of showers.

The considerable number of large jars would indicate that water was sometimes stored also in the houses. The earthen

ladles or dippers not infrequently found in the ruins or in the graves are often much worn and bevelled on the edges, an indication that they were used to ladle up water from hollows in the rocks, such as abound on the plateaus above and about the cliffs. Small springs still exist near some of the largest cliff-houses.

That the "cliff-man" was skilled in masonry the well shaped and finished stones, the trim walls hung upon steep sloping rock surfaces, sheer at the edges of cliffs, where they rest to-day firm and secure, abundantly prove. The mortar of most of the houses was very cleverly laid in, and between the tiers pebbles and small stones were set, giving a pleasing break to the lines of the masonry.

The rooms of these great dwellings were apparently not all built at one time, and in size, shape, and arrangement conform to the exigencies of the situation.



Skilful Prehistoric Masonry.

1

Some of them are many feet across, some so small that one can hardly stand upright in them and can reach from side to side. Some communicate with one another by low openings, through which one must crawl on hands and knees; others are entered only through holes in the ceilings. Some of the rooms are so small that they could have been used only for storage.

The great sloping arches of the caverns in which the larger cliff-houses are built shelter most of them from above. But when rooms were exposed or were built one above another, the roofs or floors are supported by timber girders, whose rough ends witness to the toilsome processes involved in their shaping with such tools alone as men of the stone age could command. Upon the heavier timbers they laid smaller sticks, tied osiers and cedar bark to these, and plastered the whole

over with thick layers of mud or mortar. A large part of the timber is well preserved.

Within, the masonry is usually coated with a thin layer of plaster, and the sweep of the rough palms of the old artisans is still plain on many a chamber wall. They had tiny fire-places in the corners of some of the little rooms. In others the fire was in a pit in the floor at the centre. The smoke from the fires found its way out as best it could through holes in the ceilings. So the walls are often very black, and from some of them you can rub off the soot upon your hands to-day. But when the wall got too sooty a thin fresh layer of plaster was laid on over it. In some of the larger rooms one can count sixteen, and perhaps more, thin layers of fresh plaster, with the soot in streaks of black between them.

Furniture there is no trace of, unless one reckon as such a low stone step or

bench which runs around some of the larger rooms.

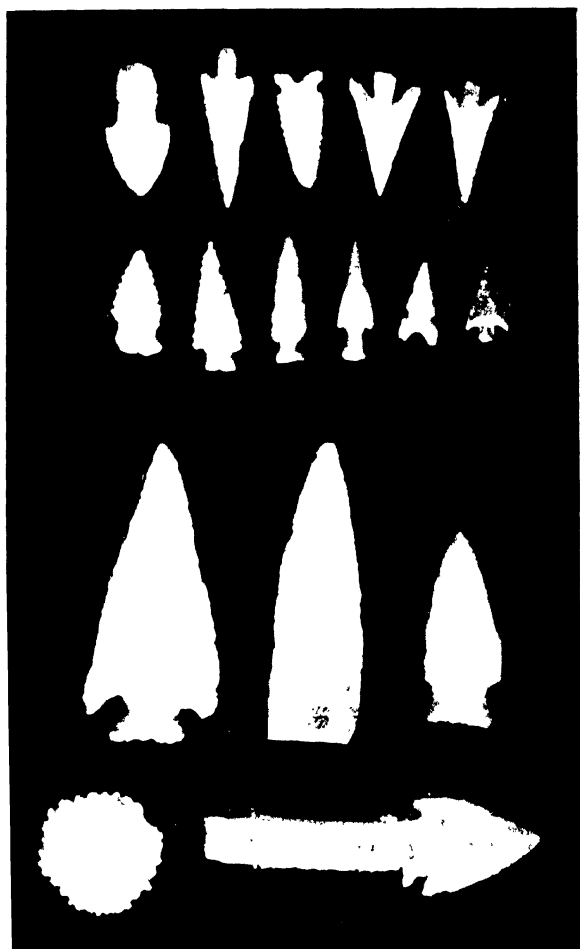
Many of the ruins contain large round chambers with the narrow stone bench along the wall, and a pit in the centre for a fire. They have usually a pyramidal or dome-like roof of large timbers, whose ends rest upon stone piers which project into the rooms. The walls of these rooms, which seem to have been places of assembly and are called *estufas* or *kivas*, are usually very sooty. In them, too, one finds such evidence of an intelligent provision for ventilation as shames some of our practices to-day. Flues, often of considerable size, are built into the walls, leading from the open air down into the chambers, and opening at the floor-level. In front of this opening, and between it and the fire-pit, was usually a stone or wooden screen.

Little square cubbies were not infre-

quently made inside the rooms by leaving a stone out of the masonry. These are especially common in the large round chambers just mentioned, and small utensils and ornaments have been frequently found stowed away in them. Many of the rooms have wooden pegs built into the walls, apparently for hanging things upon.

The stout timbers which form the floors of the higher rooms were sometimes left sticking through the masonry outside the walls, and small cross-sticks being tied upon them, they made excellent balconies—a little dangerous, perhaps, if some skulking marauder with a bow and arrows should happen to creep to the nearest cliff edge above, but airy and with commanding outlook.

Firesticks have been left, with round charred ends, such as the early folks the world over were wont to twirl upon



another stick and so win fire. Little bunches of cedar-bark strips closely tied with yucca threads, and burnt at one end where they have been used as tinder, are not uncommon "finds" in the rooms and in the rubbish heaps.

No trace of metal tools or utensils has ever been found in these ruins. The "Cliff-dweller" was a man of the stone age. He was no mean artisan, however, as may be seen by his stone arrow-heads and spear-heads, by his stone axes and hammers, many of them, thanks to the dry climate, with the wooden handle still tied firmly on to them. He had knives made of chipped stone tied into the end of a stick, and often made fast with some sort of pitch. Sharp, smooth stones, which may have been used for skinning large game, are not rare.

Small stone mortars with spherical or cylindrical pestles are not uncommon,

and one may safely conjecture that they were employed to grind the mineral colours used in the decoration of pottery. Stone-tipped drills have been found, which were doubtless used to make holes in their amulets and beads, and in mending broken pottery. There are corn-mills—great stone slabs, a little hollowed, and set aslant in the floor at one side of some of the rooms, with a flat narrow slip of stone to be grasped in the hands in grinding.

Our early American was something of a hunter, if we may judge from the deer bones often found. He was a warrior, too. Many of his houses are not only built in inaccessible and well-protected places, but loop-holes sloping towards the avenues of approach are common in the walls, and the doors have ample provision for closure by tightly fitting slabs of stone. Bows still loosely strung with sinew, and stone-tipped arrows

with the shaft intact, have defied time, too. With these and stone-tipped spears and stone knives and wooden clubs our warrior did his hunting and his fighting.

The "cliff-man" had one domestic animal and, so far as can be made out, only one, and that was the turkey, or something very like it. This bird must have been kept in considerable numbers. Its feathers are found in abundance, and were used, as I have said, to make blankets. Bunches of the quills have been discovered stowed away in the houses. This domestic pet has been pictured more often than any other creature by the man of the cliffs, and most frequently upon his pottery.

There is no evidence of the use of written characters by these people, but here and there simple geometric or irregular figures are found in dull colour on the plaster and on the faces of the cliffs. There is relatively little animal drawing, but

occasionally crude linear figures of men, mountain sheep and birds are found. Similar crude pictographs are occasionally cut in rough shallow lines in the rocks near the dwellings. On the whole, such artistic capacities as this old barbarian possessed were but scantily exercised upon his walls.

In his pottery, however, as well as in animal figures and various other objects made of shell, jade, onyx, and turquoise among which are some very handsome mosaics, we find such expression of the artistic sense as gives him a very respectable standing in the hierarchy of early American art.

While whole pieces of pottery are occasionally found in protected places in the abandoned rooms, and fragments are scattered in profusion everywhere, the larger part of the well-preserved articles of clay has come from the burial



places. So I must linger a moment to speak of these.

The rock about the cliff dwellings is usually so scantily clad with soil that earth burial was not accomplished without difficulty. The places outside the dwellings most commonly selected for this purpose were low shelves in the cliffs, from which the earth was scooped, and shallow pits, sometimes stoned at the sides or lined with clay, were thus fashioned.

But one of the most common burial-places of the "cliff-man" of the Mesa Verde was the rubbish heaps which he allowed to accumulate, often to an enormous extent, in the low, dark, angular space at the back of his houses, where the sloping roof of the caverns in the cliff met the horizontal shelf on which the houses stand.

These great rubbish heaps, often several

feet deep, are made up of dirt and dust of unrecognisable origin, of turkey droppings, and of all sorts of waste from the man and his housekeeping. There are feathers and corn-husks and corn-cobs, fragments of bone and wood, rinds and stems of gourds, scraps of yucca, half-burned corn-cobs, pieces of charcoal, bits of worn fabrics, cast-off sandals, and broken pottery in abundance.

Now and then the delvers in these back-door rubbish heaps have come upon whole pieces of pottery or stone implements and other things which have evidently been hidden there, perhaps in times of siege. The whole material is disagreeable on account of the fine choking dust which rises whenever it is stirred, but it is not otherwise offensive now.

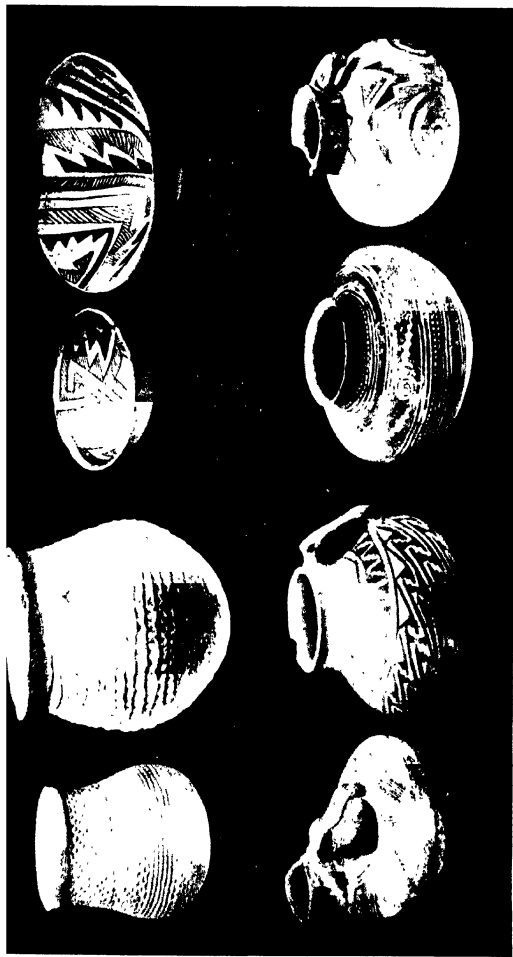
It was in this dark, protected place, then, that the cliff-man often buried his dead. The legs and arms were usually drawn

to the body, which was tied and bound with yucca leaves, and protected in various ways from direct contact with the earth, sometimes by wooden or osier or yucca mats, or by feather cloth or basketry, or slabs of stone. Many of the skeletons are well preserved, and occasionally the whole body is mummified and in very perfect state. Some bodies have been found walled up in the smaller rooms.

But it is of the pottery that I wish especially to speak. It is all fashioned by the hands, for no tidings of the potter's wheel had ever reached these folks, and their skill in the management of clay justly commands admiration. Some of the great jars holding several gallons are scarcely one-eighth of an inch thick, are of excellent shape and symmetry, and, when struck, ring like a bell. The old cliff-man—or woman—knew how to mix

pounded stone, or sand, or old pottery broken into small fragments with his clay to prevent shrinkage and cracking. He knew how to bake his finished articles, and his fancy in shaping and decorating was of no mean order.

Some of the ware is grey and smooth and undecorated; some forms show that it was built up by strips of clay, coil upon coil. In many pieces regular indentations made by the finger tips or nail upon the coils give the general impression of basket-work. The tiny ridges of the maker's finger-tips are often marked upon this indented coilware with a sharpness which rivals any of the impressions which one can get to-day on paper, with all the refinement of Galton's fascinating but smeary technique. Then there is a third kind of pottery, in which the article has received a surface wash of light mineral colour, upon which are decorations of



Pottery of the Cliff-Dweller.

The two pots above and to the left are of "corrugated" or "indented" ware; the bowls and jars are



various forms, usually in black, but sometimes in black and red. It is not very common to find red pottery in the region about the Mesa Verde, but occasionally a piece is unearthed.

The forms of pottery are various. There are bowls of many shapes and sizes, usually decorated on the inside only. There are long jars and short jars, some with wide and some with narrow mouths. There are vases, pitchers, cups, ladles, platters, sieves, mugs, and bottles, and many other queer-shaped things which it would be difficult to name. The colours were mineral, and very durable, as is evident from their excellent preservation after hundreds of years of burial.

The decoration is frequently almost concealed, when the articles are exhumed, by a rough whitish incrustation of lime which through the years of burial has gathered on the surfaces. Washing with

dilute acid discloses the pattern underneath.

Not infrequently one finds bowls and jars which have been cracked or broken, and mended by drilling holes along the cracks and tying the pieces together with yucca cords. A great deal of care was evidently taken in fashioning and decorating some of this pottery, and the thrifty old "Cliff-dweller" knew very well that a mended jar was useful to store corn and flour and such dry things in, even if it would no longer hold water.

One often finds, inside the pieces of pottery in the graves, fragments of the mineral from which the pigment is ground, and smooth stones with which, apparently, the surface of the clay articles was smoothed and polished. Arrow-heads, bone implements, beads, shells, amulets, corn, and a variety of their pathetic belongings are not infrequently found packed

within the jars and bowls beside the crumbled bodies.

And the "Cliff-dweller" smoked a pipe! I feel constrained to leave it to the archæologists to decide whether he smoked for the fun of it, or with devotional or ceremonial intent, and what he smoked. But one short-stemmed pipe of clay, decorated in red, and blackened within from use, and one half shaped in process of construction, are in my own collection. It is a dreamy land, this which he lived in, and I hope that he lay in the shadows sometimes in the lulls of his strenuous life, and, with no urgent thought of his gods or his etiquette, puffed idly and at ease his little dudheen.

Baskets and mats showing considerable variety in the weaving and a distinct appreciation of ornament witness to the cliff-man's skill. Coarse grass, yucca, willow, and split sticks are the

materials which he used for this purpose.

The bottoms of most of the jars and larger clay vessels are rounded, and, so far as I have seen, never have the hollow underneath which in modern Indian pottery facilitates its carrying poised upon the head. And so plaited rings, which were doubtless used for steadying the jars upon the head or on the ground, are, as might be expected, not uncommon.

But his skill as a weaver was not limited to basketry, for fabrics of varied texture and composition are largely in evidence. The yucca, or Spanish-bayonet, which grows all over the arid country of the "Cliff-dweller," was one of the things which he had to thank his gods for, hour by hour.

He hung the narrow leaves about his houses in neatly tied dried bunches, ready for coarser purposes. He used them in this

form as cords to tie slender sticks in place upon his ceilings, on which the mud was plastered; with them he bound his sandals to his feet, pieced out bands of cloth which were too worn or weak to steady burdens carried on his back; with them he tied together the sticks which framed the baby board and bound the dead for burial. With them he mended broken bowls, and wove coarse nets around the great water jars for support or suspension; while, woven close, they made durable sandal soles and coarse baskets.

Then he beat out the brittle woody part of these precious yucca leaves, with wooden sticks, and out of the fine, tough, pliable fibrils which were left he twisted threads and cords, the warp and woof of his most common woven fabrics. Some of these fabrics are coarse and rough; some are smooth and fine. In some of them the yucca cord forms the warp,

while the woof is of cotton, dark and light, with woven pattern.

Whether he used the narrow strips of the leaf, or cords or rope twisted of their fibres, the old cliff fellow knew how to tie good square knots which have not slipped a jot for some hundreds of years. I have sought in vain for "squaw" knots, among thousands of these bits of handiwork, on roof and ceiling and mended fabric. And he who never saw the sea could make a "ring splice" to shame a sailor.

The feather cloth is, in some respects, one of the most noteworthy of this old citizen's productions. He hetchelled his dry yucca leaves, twisted their fibrils into coarse cords, tied these together to form a wide-meshed net, and then inch by inch he bound them close with little tufts of fluffy blue-grey feathers, ravaged, no doubt, largely from his turkey pets; or sometimes he twisted the feathers

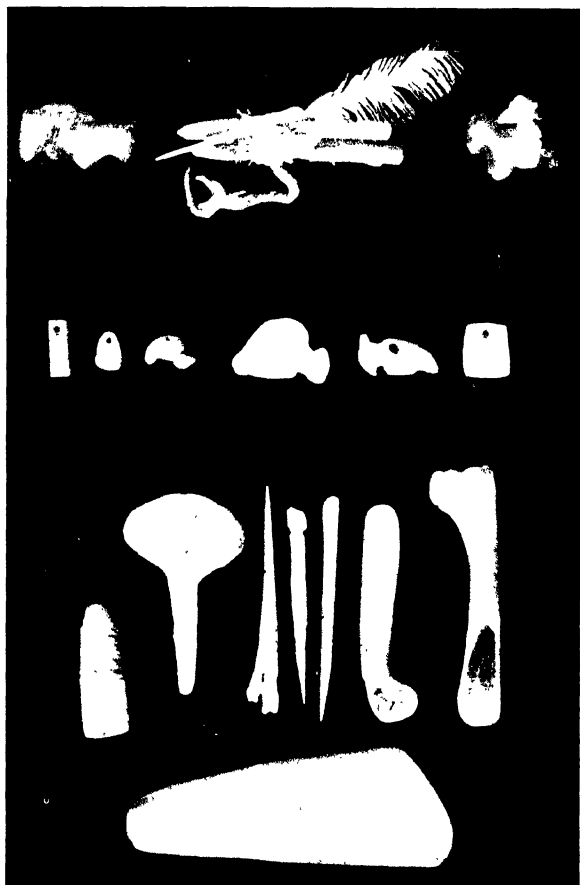
into the cords as he made them. Some of the feather blankets so toilsomely constructed have been found in excellent preservation, but in most of them the feathers are largely frayed away. They must have been very warm, and were apparently among the choicest possessions of these thrifty folks. A little fine-textured cloth all of cotton has been found.

The utensils of some of his milder industries the cliff-man largely fashioned out of bone. He ground broad bevelled edges on the broken segments of the leg bones of larger animals, like the deer, forming crude knives and chisels and scrapers; but of smaller bones, and especially of the long bones of the turkey, he made awls and punches and needles. About the surface of the rocks, near the cliff dwellings, are shallow hollows and grooves, worn, no doubt, by the old artisan

in shaping and polishing his stone and bone implements.

I was greatly puzzled, during our delvings among the rubbish heaps behind the ruins, by numerous small irregular wads of fine strips of corn-husk or other fibre, which had been bruised and closely matted together; and it was not until I had later become acquainted with the Hopi Indians, two hundred and fifty miles to the southward of the Mesa Verde, that I found a clew. 'Here I saw them pick out of a bowl of thick brown stuff, which they said was sweet, and which certainly was sticky, similar looking wads of fibre, and, thrusting them into their mouths, begin vigorous mastication. Then I realised that the husk wads of the rubbish heaps had probably been, while in their pristine state, the prehistoric avatars of the chewing-gum.

A dark-skinned, black-haired, scantily



Relics of a Primitive Culture.

clad barbarian, then, it seems he was, our dweller in the cliffs, the real American. Farmer, mason, potter, weaver, basket-maker, tailor, jeweller, hunter, priest, and warrior all in one. Daring and hardy he was to scale those cliffs, and build upon their brinks the houses into which he gathered sustenance wrung from the unwilling soil. Diligent and thrifty he was certainly. Skilful, too, as skill goes in the stage of evolvement up to which he had slowly won his way. Superstitious, doubtless, as is ever the case with those who frame their notions of the world face to face with the crude forces of nature. Dreamy, I fancy he must have been, for he looked abroad through red dawns and hazy noontides and witching twilights fading very slowly into night.

And he was—well—he was undoubtedly dirty. Life has more urgent uses for water than bathing in these grim arid

wastes. But nature is a very efficient sanitarian in dry climates such as his, and "use can make sweet the peach's shady side." So let us say no more about it.

It is the business of the archæologist to learn and tell you, or to guess and tell you, when these early Americans lived, where they came from, and whither they have gone. A group of skeletons, with skulls broken as if by blows, which the early explorers found lying unburied in a heap upon the floor, would seem to indicate that in one case at least there was a fierce dramatic ending to the story. The archaic character of the pottery and the size of some trees which have grown upon the ruined masonry prove that several centuries at least have passed since their abandoned homes fell into the custody of the squirrels and the elements. The modern Indian shuns them, as a rule, as he does all things which savour of death; and

so, until a dozen years or so ago, the silent dwellings held unchallenged the secrets of the vanished race.

But if the fortunes of the reader should lead him, as was the writer's hap, to cross on Indian trails the dreary plains and barren ridges which, stretching southward from the Mesa Verde into Arizona, through the country of the Navajos, bring one at last to the Hopi pueblos perched upon towering rock islets in the desert, where, since the Spaniards found them more than three centuries ago, they have lived alone and almost untouched by the tides of civilisation which have faltered and stopped a hundred miles away. If he should for a time dwell there among the simple, kindly people who will bid him welcome to their homes, he will come to realise, I think, that these are at least the Cliff-dwellers "kind of folks," though some

stages beyond them in ways which look toward civilisation.

These Pueblo Indians have half emerged from their age of stone more by borrowing than by evolution. They weave crude fabrics in their homes. They make rude pottery without a wheel, and with more colour in its decoration than the cliff-men knew. They brush their hair with bunches of stiff fibre, which the cliff folk would surely claim to be their own. Their corn-mills and mortars are the same.

In the tiny Hopi houses built of stone our cliff-man would find his own little chambers with stone benches, the door in the ceiling, and plastered still afresh when soot grows thick upon the walls. He would find blankets made as he made his, only instead of feathers, it is fur of rabbits tied or twisted on to cords. He would see, could he but wander here, the large assembly chambers, mostly sunken in the

rock, with smoky fire in a pit in the middle, and an air-hole in the wall where his own more purposeful fresh-air flue was wont to be. Peering into these chambers he would see the men now making or mending garments, now gathered in serious council, now absorbed in weird ceremonial, or through long hours rehearsing stories in which the gods walk and talk in very chummy fashion with their brown brothers.

He would find the new fellow tilling just such meagre fields as he did before his work-days were ended. And if he missed a certain stuffy snugness and palpable security which his cliff eyry lent, he would realise that the Hopi man has still chosen a brave vantage-ground atop of his great frowning mesas, which only gunpowder has made ridiculous as natural forts.

So we find at last that our wanderings in

the open along paths which lead through no academic shades, and which are lighted but faintly by the torches of science, have landed us safely under the wings of the modern archæologists.

And now, if still one linger on among the Hopi—the “peaceful folks,” they call themselves—and can enter a little into the spirit of their homely lives, he will surely realise that while the material things which the old “Cliff-dweller” left may furnish clews to some definite conceptions of the outside man, there must yet have been something spiritually dominant in the silent race to which here among these simple living folks there is a key. The visitor will soon learn that into each act of life, each thought, and all tradition is woven the sense of intimate relationship with potent Beings in earth and sky, who guard and shape the brown man’s destinies.

So one can be certain that the old fellows on the cliffs read strange stories in the lambent stars, heard angry voices in the thunder, caught whispers on the breeze, and took all that life brought them of good or ill as the meed of gods potent, familiar, and ever close at hand. One can be certain, too, that when in the old days the stars peeped into the smoky little dungeons perched along the cliffs, they saw intent dusky circles listening hour after hour to strange stories of the Presences which rule the world, and to quaint, endless myths which the old men passed on, a sacred legacy, age after age.

And when one turns homeward, unwilling as a school-boy bidden to his tasks, his impressions of the cliff-man and his deserted homes come back to him linked with such pictures of sky and air and sculptured hill that they all gather at last

into a memory so gracious and so inspiring as almost to seem woven in the texture of dreams.



CHAPTER VII

PRIMITIVE AMERICAN HOUSE BUILDERS

WE have seen in the last chapter that it is possible to construct out of the relics which have been preserved in the graves and in the deep recesses of the great cliff houses, a fair conception of the cliff-man, his business and his arts. It may be interesting now to look a little more closely and in more sedate and systematic fashion at the houses which this dusky savage built, especially in the open, and to see where they are in the land of the Great Plateau.

In a survey of the widely scattered ruins of the south-western United States which mark a prehistoric occupancy of regions now arid and mostly deserted, it is both

convenient and instructive to recognise large natural districts corresponding to the great drainage areas. Such districts are the watersheds of the Gila and its tributaries, of the Little Colorado, of the Rio Grande, and of the Rio San Juan. These are indicated on the map.

A few ruins are scattered along the Kanab and the Virgen rivers, which enter the Colorado from the west, and a few along the borders of the great Colorado and its mighty Canyon. Many of the most primitive and apparently oldest types of ruins are found in the San Juan watershed, especially north of the river in south-eastern Utah and the adjacent corner of Colorado. In the Rio Grande groups and in the valleys of the Little Colorado and the Gila and their tributaries, the older ruins are scattered among those of a later period, some of the latter being prehistoric,

others historic, with traces of the Spaniards here and there.

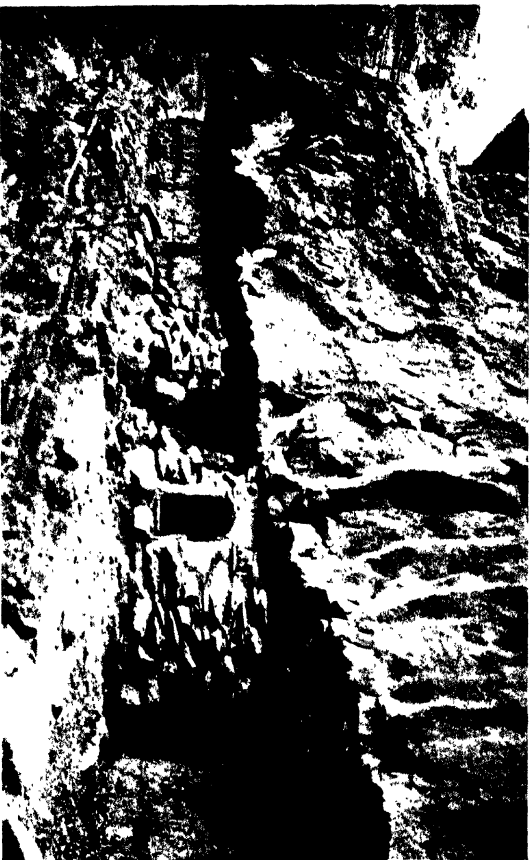
The ruins of the Upper Gila and Salt River in Arizona have not been carefully explored, nor have those which dot the country reaching into Mexico.

The ruins in each of these districts are marked by peculiarities of construction and grouping, by apparent differences in age, and by types of pottery, fabrics, and utensils, all of which appear to be of considerable significance in the attempt to characterise these early American Indians and to trace the lines of their relationship to one another and to existing tribes. When each of these districts shall have been carefully studied and compared and not until then, will the data be at hand for wide generalisations regarding the origin, relationships, and period of occupancy of these house-building people.

The early explorers of the South-west

country were much more impressed with the ruins which they found perched upon the ledges of the cliffs than with the stone heaps and fragments of standing walls in the open country. The cliff houses appealed then as now more strongly to the imagination, and as is natural from their more sheltered position, they are usually in better preservation. The early conception of them as defensive homes and fortresses and as the scenes of savage warfare, lent also a touch of the dramatic to the unknown story of these house-makers.

But after all the open ruins are far more numerous than are the cliff houses, not only on the Great Plateau but on its eastern and western borders and in the land which stretches away into Mexico. Open ruins are almost always to be found at no great distance from the cliff houses and as the relics from both have been



A Primitive Lodge on the Face of a Cliff.

gathered for comparative study it has become clear that the "Cliff-dweller" did not always dwell on the cliffs, that his houses on the ledges were not usually forts, and that in many instances at least he built under the overhanging rocks or in the depths of the caverns simply because in such places he found a house half made already.

While, therefore, it is sometimes convenient to speak of "valley dwellings," "mesa dwellings," "cliff dwellings," and "cave dwellings," there appears to be no reason for believing that these distinctions are of deeper significance than marks of an adaptation to their environment of a house-building people lingering in the higher stages of savagery. Thus the prehistoric house-building Indian of the south-west dwelt on the cliff or on the plains as was most expedient, but we choose to name him the "Cliff-dweller" after his most picturesque election.

In the northern part of the great ruin area the building material was largely stone, either trimmed stone or boulders, depending upon the most available source. These were laid in adobe mortar. In the southern districts many of the buildings were made largely or wholly of adobe.

There is no reason for believing that the number of ruins in any district affords an exact indication of the populousness of the region at any one time, because the present condition of the ruins seems to point to very great differences in age. Thus, some of the houses, even though standing in exposed situations on the storm-swept summits of the mesas, show still the weathered roof and floor timbers either in place or fallen in upon the shattered walls; while, on the other hand, many of the ruins near by are reduced to formless heaps, and are covered deep with

the wear and weather of the stones and by the drift of the sand-laden winds.

Furthermore, excavations which have been made in several places show that buildings, themselves of great age, have been made on the top of still older structures. Finally, distinctly different structural types of buildings may be found in associated groups, which points to a long or an interrupted occupancy of the site.

The attempt to establish typical architectural forms in the buildings of these ancient people is beset with practical difficulties, owing to the frequent special adaptation in material and in form to particular situations as well as to the skilful incorporation of natural objects, such as caves, benches, cliffs, and fallen rocks, into the structure of the buildings.

One may, however, conveniently place in a class together those ruins which stand in the open, either in the valley bottoms

or upon the mesas. These open ruins fall naturally into four groups: First, small isolated or clustered houses or pueblos, each conforming to a distinct primitive type; second, irregular and often rambling groups or clusters of houses, usually adapted in form and position to peculiarities of their situation, such as the heads of gulches, the brinks or slopes of canyons, the tops of rocks or buttes, etc.; third, towers and other isolated structures usually standing alone and frequently commanding wide outlooks; fourth, large communal pueblos forming compact, many roomed buildings.

On the other hand, it is convenient to bring together in a second class those ruins which are more or less protected by their situation in shallow natural recesses or caves or upon overhung benches on the faces of the cliffs. Such ruins may stand singly or in small clusters or may

be massed to form communal dwellings of considerable size. The houses of this group are commonly called "cliff dwellings."

The so called "cave dwellings" are artificial caves dug out of soft rock. The caves often formed only a part of the dwelling, being frequently in communication, through narrow doorways, with stone structures built against the faces of the soft cliffs in which the caves were dug.

Let us now look at some of these types of ruins a little more in detail.

The writer has spent the summers of several years in wandering with a pack train over the wide realm of the Great Plateau and the adjacent regions where the ruins are most abundant, locating the various groups which had not been previously described and comparing the various types of building and forms of burial.

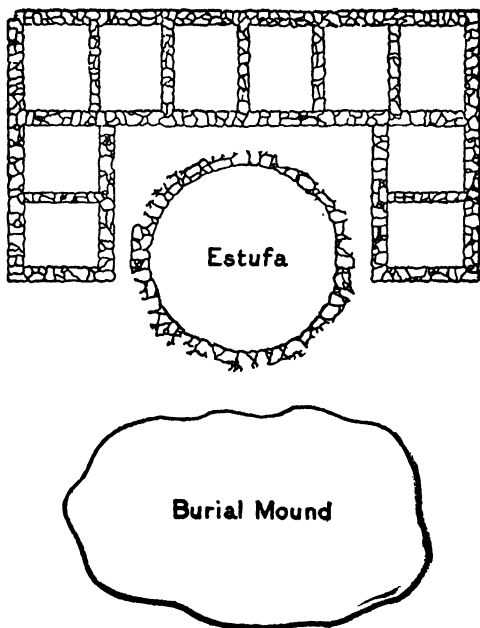
Early in his studies the impression was gained that the most typical forms of buildings were to be sought in such situations as offered no incumbrances and no adventitious structural adjuncts—such situations, in short, as are found in the open level bottoms or on the approximately level mesa tops.

It was found, in fact, that among the smaller ruins which stand in the open, either in the valleys or on the mesas, there is one type which is by far the most abundant and widely distributed, especially north of the San Juan River. These ruins are usually fallen and are often more or less overgrown with sage-brush or other low shrubs, so that unless the walls are partly standing they form irregular and often inconspicuous stone heaps. They are, however, almost invariably composed of three elements—a series of chambers forming the house, an estufa

or kiva or assembly chamber, and a burial mound. Such ruins in the San Juan district constitute at least nine-tenths of all these smaller isolated structures.

The house in this type of ruin in its simplest form consists of a single row of rooms, each usually five or six feet wide and from eight to ten feet long, with a straight wall upon the back, and a short right-angled wing at each end: the whole forming approximately one side of a square. This usually opens southward, with an estufa occupying the partially enclosed court. The ground-plan of this type of ruin is shown in the accompanying diagrammatic sketch. Houses of this type may have only three or four rooms along the back, with single rooms in the wings. Or there may be eight or ten rooms at the back with two or three in each wing. Frequently when there are several rooms

along the back there are two or more estufas in the court.



Ground-plan of Primitive House Type.

The house in the most typical of these ruins is usually carefully constructed. The outer walls are from ten to fourteen

inches thick, often laid up with two rows of stones dressed on the outer and inner faces, the space between being filled with rubble and adobe mortar. The partitions between the rooms are usually somewhat thinner than the outer walls and often consist of a single row of stones. Small doorways frequently lead from room to room. I have never seen openings in the back or sides, nor have I been able to determine the existence of doorways opening toward the estufa. The entrance was doubtless from the roof which was reached by ladders. The roof timbers, if such there were, have wholly disappeared from these typical ruins.

In many cases, though the walls are largely fallen, the outlines of the buildings and rooms are readily made out, or are developed by throwing off a few of the outer fallen stones. In many instances, however, drifting sands have largely cov-

ered the ruins, or sage-brush and piñons have grown upon them, so that these and soil conceal most of the structural outlines.

The estufa is uniformly circular and is situated within or in front of the court formed by the wings of the house and which looks southward. It is usually sunk below the level of the ground surface and largely filled with earth and fallen stones from its walls, which I have never found rising above the general level when the ruins are built upon earth. The estufas are then shallow circular pits, deepest at the centre, and after rains may for a time contain water. Thus it is that they are commonly called reservoirs by the cattlemen and the Navajo. I have never excavated one of the estufas, so that I know nothing about their depth or internal structure.

The burial mounds which are almost invariably associated with such ruins



A Prehistoric Burial Mound among the Sage-Brush.

are, when the surface permits, uniformly south or southward of the house, sometimes close by, sometimes a few feet or yards away. They are sometimes very large, occupying much more ground space than the ruin itself. When not washed out they usually, though not always, rise a little above the general surface of the ground, are of irregular shape, and are more or less abundantly strewn with fragments of broken pottery. The soil on and about the burial mounds is commonly somewhat darker than the surrounding earth, and briars, sage-brush, and other shrubs are apt to flourish upon them.

In earlier days the seeker for hidden treasure or for merchantable relics was wont to pull down the walls of the ruins and to delve beneath the rooms. But since the significance and constancy of the burial mounds have become generally known, the fury of the pot-hunter has

been largely diverted to them. It is from these burial mounds of the open valley and mesa ruins that a large part of the pottery is derived which is constantly poured into the bric-à-brac and curio market through ranchmen, traders, and professional vandals.

These burial mounds were apparently rubbish heaps, and charcoal, ashes, bits of bone, etc., reveal their character. The bodies are buried at various depths, from a few inches to three or four feet. Sometimes a slab of stone lies over the body, sometimes not. Usually in these open burial mounds nothing but the skeleton or weathered fragments of bone are left, together with one or sometimes several pieces of pottery buried with the dead. Perishable stuff,—grain, meal, fabrics, etc.—such as is often found intact in the protected cliff house burials, is rarely recognisable. But household utensils of various

kinds are common. The pottery is frequently intact and close to the shoulders or skull. But it is often broken and not infrequently has moved in the earth several feet from the bones, during the long years of burial, doubtless from the action of frost.

While ruins of this primitive type are most abundant in the San Juan watershed, they are scattered also through the valley of the Little Colorado and along the tributaries of the Virgen.

It is interesting to note the frequency with which in these primitive abodes each house, be it larger or smaller, has its separate burial mound. Sometimes there are scores of houses scattered over an area of less than a square mile, but unless these houses are definitely massed to form a single building, each with few exceptions, has its own combined rubbish heap and mausoleum.

The significance of this convenient arrangement must be sought in the lore of the Pueblo Indians of to-day in whom the ties of family and clan are of great importance in shaping their performances and traditions.

I am disposed to attach considerable significance to this type of small dwelling, with its uniform association of house, estufa, and burial mound, as the simplest expression of an early and primitive phase of the house-building culture. The character of these small ruins as types of residence was overlooked in the earlier studies in this field, and the significance of the burial mound was not recognised. When receiving special mention the latter was looked upon simply as a rubbish heap, strewn with broken pottery.

Variants of this type of ruin are common. Thus, there may be a double row of rooms at the back with a single or double

row in the wings. In such double rows the back row may have two stories. Or, these structural units with either single or double rows of rooms may be placed end to end, thus often forming buildings of considerable length.

Sometimes the wings are prolonged, having several rooms enclosing a square or elongated court which contains the estufas. In various ways these structural units are frequently placed together forming large buildings with irregular passages here and there between them. In such cases it is not infrequently evident from different degrees of preservation and from differences in the character of the masonry that the buildings were made at successive periods.

The next best defined type of ruins of this class which stand in the open are those which are built around the heads of rock gulches or canyons. The shallow

water-courses, often inconspicuous upon the tops of the larger plateaus, are apt to break suddenly into rocky gulches.

The ruins which are built around the heads of such gulches are especially numerous in the country north of the San Juan River. They are always irregular in form, often composed of a series of isolated chambers or groups of these around the brink of the gulch, and not infrequently extending down the rocky slopes or ledges toward the bottom. The direct line of the stream is usually left clear. Not infrequently a rude stone dam is still to be seen across the shallow sag in the rocks above the ruins.

Occasionally there is a shallow cave beneath an overhanging ledge at the head of the gulch in which is a spring or a water-pocket. In several ruins of considerable size built around the cliff edges at the head of a gulch, a rock wall about



A Great Ruin at the Head of a Gulch.

three or four feet high, often forming a zigzag, stands a few feet outside the line of the ruins, partially or completely fencing them in. This is apparently a defensive structure.

Towers of various shapes and heights occasionally form a part of composite ruins of various types. Isolated towers and small single-room structures, often commanding wide outlooks, are occasionally found. Small single buildings; large and small low-walled stone enclosures; square or oblong box-like structures from one to two feet across made of thin stone slabs, often apparently empty or sometimes containing a little charcoal, are not uncommon. Here and there are rows and clusters of thick slabs of stone set upon end without other apparent associated structures.

The largest of the open ruins are in the form of great pueblos or communal dwell-

ings formed of a congeries of rooms sometimes several hundred in number, often several stories high, with either one or more courts which usually open southward. These stand in the open, either in the valleys or on the tops of the mesas, and resemble in many ways the great inhabited pueblos like that of Acoma and those of the Hopi group. Such are the ruins in the upper Chaco Valley, the great ruin near the modern village of Aztec in New Mexico, and the so-called "Aztec Spring Ruin" at the foot of the Sierra El Late in Montezuma Valley in south-western Colorado, and many others in the valley of the Little Colorado and its tributaries. Some of the latter are prehistoric, some historic.

Near some of the large pueblos burial mounds of considerable size have been found. In other instances, however, notably in the Chaco group, the situation of

the mass of the burials is still unknown.

Let us now turn briefly to the ruins in protected situations in cliffs and first to the cliff dwellings. These ruins built in the shallow recesses weathered out of the sand rock in the sides of the canyon walls, as well as those which stand upon narrow ledges overhung and in part protected by the cliffs above, vary in form, size, and material with the differences in site.

There are countless intermediate forms between the long, high shelves upon whose brinks shallow stone cabins stand alone or in single rows to the shallow recesses at the level of the valley bottom, in which time and flood and wind drift have dealt less kindly with the old habitations than with those upon the higher levels. There is almost endless variation from the great caverns of the Mesa Verde with their large and still imposing

buildings or great masses of fallen walls to the tiny recesses with scarce foothold for a pair of rooms.

The belief was developed early in the study of these ruins, and has since been widely entertained, that the builders of houses in natural or artificial recesses or caves in the cliffs represented an earlier and a different phase of culture from that which inspired the buildings, large and small, which stand in the open and which are necessarily of a somewhat different structural type. But this notion is not justified by the accumulating evidence of the essential identity of the house-builders' culture, variation in type of structure being clearly accounted for by differences in local environment and by such conditions of change as might readily occur within a very limited ethnical period.

It was obviously important in the choice of a building site in a cliff recess that the



A Cliff Town in Ruins—Mesa Verde, Colo.

Photograph by Wetherill.

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slope of the bottom should not be so great as to render insecure the foundations of the buildings, though in many instances this difficulty has been most skilfully overcome. The overhang of the cliff must be such that the water, running in torrents as it often does from the bare rock surfaces above, should fall clear of the building site. The roof of the recess must be solid and not, as is often the case, weathering off in huge blocks or in shaly flakes.

The accessibility of the site seems not to have so much concerned the builders, for though in most instances there are simple and natural modes of access even to those cliff ruins which it appears at first impossible to reach, in the last resort they frequently pecked into the rock those foot and hand holes up the steepest slopes which are still not wholly obliterated and are still useful. Finally, it

appears to have been almost indispensable that the chosen site should have a southward or at least a sunny exposure.

When all these factors are considered, I think it is safe to say that it will be evident to one who travels widely in the ruin district, searching critically the cliffs and the walls of the canyons and gorges, that a large proportion of the natural recesses which are accessible and are suitable in depth, in the slope of the bottom in the character of the overhanging walls, and in exposure, are now, or give evidence of having been at some time, occupied by buildings. The form, number, and distribution of the cliff houses, then, in any region is strictly dependent on its natural features.

When, therefore, in certain localities cliff houses preponderate, while in others ruins of other types prevail, justifiable inference does not point toward different

stages of culture or periods of occupancy or stress of circumstance. It simply indicates that in one case the weathering of the cliffs has led to the formation of recesses adapted for building sites, while in the others suitable sites have not been formed—either because the dip of the strata, the character of the rock, the nature and rapidity of erosion, etc., have not favoured the formation of rock shelters in the cliffs; or, because no cliffs exist.

These people were first of all farmers, and while they may have been, and doubtless were, at times forced to maintain defensive homes, they were clever and sensible folks, who were not averse to a house half built by erosion in some sheltered nook in the canyons. But it was after all the arable land and the rustic tradition which largely shaped their customs and destinies.

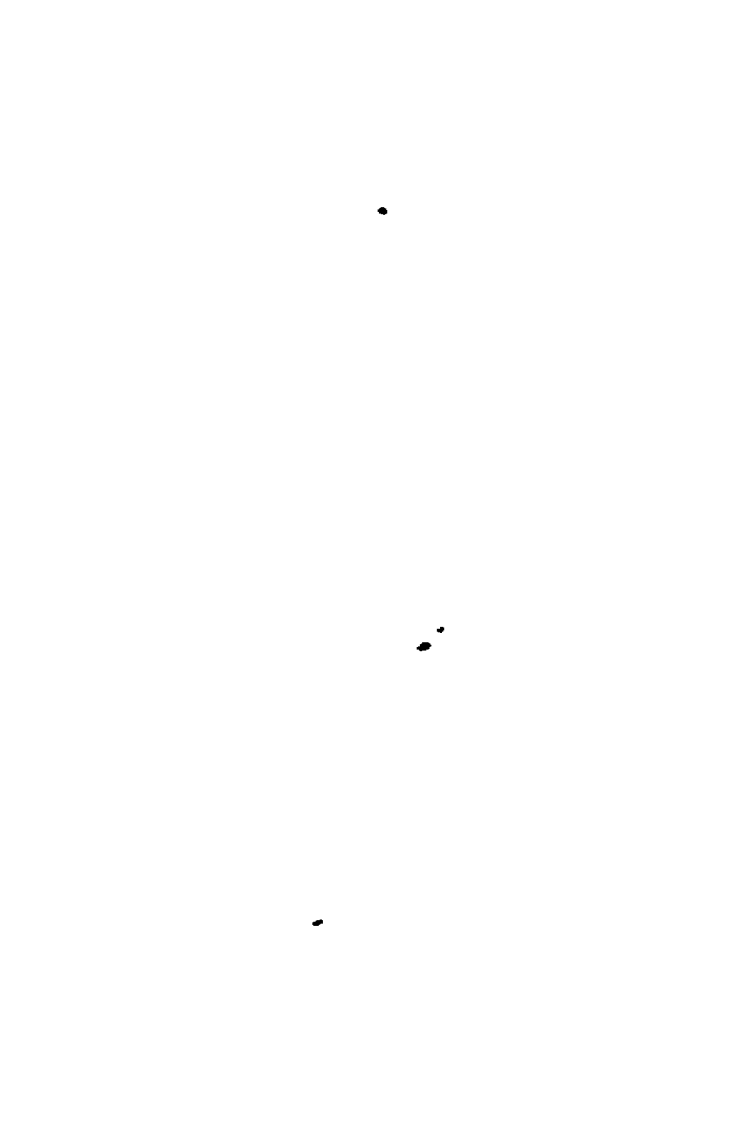
The so-called "Cave-dwellers" were the

same folk as those who built upon the ledges of the cliffs and in the open country. Only it happens that in a few places in the land which these house-building people called their own, there were some soft ledges near streams and arable valleys in which it was easy to scoop out a series of chambers with their utensils of harder stone. Neither in time nor culture did the cave-man differ from the cliff-man, or the valley-man. It was his good fortune to be able to make a comfortable dwelling with a little less skill and toil than could his brothers whose lot had fallen on different geological bottoms.

The most typical and noteworthy examples of cave dwellings or cavate lodges in the south-western United States are those in the soft volcanic formation in the narrow canyons on the eastern slopes of the Valles of the great Cochiti Plateau in New Mexico, now within the Pajarito National



A Row of Cliff Houses on a Ledge.



Park, and those in the soft sandstone ledges along the Rio Verde in Arizona.

The general subject of the water supply of the early inhabitants of this arid region may be considered here. It should be remembered, first, that the personal requirements in this respect of these people, as of their successors in this desert country, should not be judged by the standard which a more advanced culture and a different climate impose; second, that few arid regions are actually as devoid of water as they seem to be, and that a long and close familiarity with a dry country often reveals fairly abundant hidden sources of moderate supply.

It is the failure to take account of these important considerations which has so often led to the belief that in the time of these early residents the climate must have differed essentially from the present with a much more abundant rainfall.

But while this is a natural first impression it is not sustained by a careful and extended study of the region and the ruins.

If, as has often been the case, one cherishes the notion that the defensive motive was dominant in the selection of sites and in the construction of buildings, and further, that these dwellings are to be regarded as largely fortresses which were in a state of frequent and prolonged beleaguerment, the necessity in certain instances of more numerous and more abundant water sources might be conceded. But in the majority of instances the defensive character of the sites and buildings does not seem to be at all obvious nor the evidence of frequent sieges at all clear.

In fact, some of the larger pueblos, as well as many of the larger valley villages, are close beside living streams or sandy stream-beds which bear abundant currents just beneath the surface. Furthermore,

many of the large recesses in the walls of canyons and gulches in which the cliff dwellings are built furnish a constant trickle of water from the rock strata in their depths—to whose action, indeed, in many instances the weathering of the rocks into cave-like recesses has apparently been largely due.

It should also be remembered that dry as many of the great sand bottomed washes and canyons may appear, there is along many of them a steady deep flow of ground water which collects here and there, where the rock bottom rises, in great underground pockets beneath the stream-beds or valley bottoms and comes out at times upon the surface.

The ancient resident of this district doubtless knew as well as his successor, the Navajo, knows, exactly where very little digging in an apparently absolutely dry, sandy stream-bed would furnish an

abundant and unfailing supply of water. It is illuminating in this connection to travel with a Navajo Indian over the desert country and see how often a little scraping in the dry sand which has blown across the foot of a rock ledge or has gathered in a stream-bed along which you may have been riding for miles, desperately athirst, will reveal a trickle of water running away just beneath the surface. Many of the old springs near the ruins, which constant use would keep open, are now no doubt covered with sand drift.

The more familiar one becomes with this country the less keen is his surprise at the occurrence of a little water in what seem the most unlikely situations. This is a land of vast erosion, many thousand feet of sedimentary strata have been washed away over great areas leaving the edges of the remaining portions widely

exposed, and one is quite as likely to find a spring far up in the glare on the face of a great cliff or upon the top of a towering butte or mesa as upon the lower levels.

Nor need one assume that for an essentially agricultural people, as these old inhabitants of the ruin district were, a more abundant water supply than now exists was necessary. The crops which the modern Indian secures in some hot, sun-baked sag in the long slopes which lead down to the dry stream-beds, and the fruit trees which flourish upon the glaring sand-dunes, indicate the presence of moisture in many places not too far beneath the parched surfaces to be reached by the rootlets of the meagre crop.

I would not convey the impression that the ruin region is well watered. One who journeys here even under the most experienced guidance has too many memories of long privation to be easily led into such

a belief. But there are, in fact, many more sources of moderate water supply in all the regions containing many prehistoric ruins, than from the general aspect of the country would seem possible.

On the other hand, that water was not abundant is evident from the many instances, to be everywhere seen, in which, by the construction of small reservoirs and ditches, by the damming of shallow sags on exposed rock surfaces, by the utilisation of natural and the construction of artificial water-pockets, the collection of rain-water was frequently resorted to.

But after all there are many groups of dwellings of considerable size and many more isolated ruins which appear to be far from any source of water supply, and here the probability of transportation and storage in large jars so frequently found in and about ruins must be admitted.

One of the questions which we are very



A Tower of the Cliff-Dwellers.

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apt to ask a professional archaeologist is, how long ago did these people live here. And it may not be unjust to say that the reserve of his answer seems usually to furnish a fair clue as to his knowledge of his business.

In fact some of the ruins in the Rio Grande Valley were occupied long after the Spaniards came and show distinct suggestions of their culture. Other buildings were in ruins when the Spaniards first passed them. Back of this the probable age of the ruins must remain largely conjectural until a more careful and systematic study shall have been made of such marks of this early culture in all parts of the ruin region as the hands of the vandals may have spared.

But the well preserved condition of some of the older types of ruins and the ceremonial and household utensils which have been found in them would not pre-

clude the conclusion, should this be justified on other grounds, that several, perhaps even many centuries have passed since this special phase of early culture gained a foothold in these austere recesses of America.

Most of the prehistoric ruins of the south-west are given over to-day to unbridled vandalism. A pot or a skull is worth a few dimes to the trader and a few dollars to the tourist, and so has been evolved the holiday and the professional pot-hunter. Everywhere the ruins are ravaged. More is destroyed in the search than is saved. No records are kept. But worse than this the Indian, in whose domain are many of the most interesting ruins, has learned his lesson from the white brother, and has learned it well.

A few years ago the Indian stood in superstitious dread of these ruins and of all that they contained, especially of the

human bones which were now and then washed out. So potent was this dread that in the earlier days in the Indian country I have left valuable provision and other tempting booty for days together, piled up under canvas with the lower jaw bone of a "Cliff-dweller," carried along for this purpose, placed ostentatiously on top of the heap. The cache was invariably visited in our absence by our prowling brown brethren, whose tracks were quite in evidence close by. But I never lost an article thus guarded.

Now, however, all is changed. The Indian, particularly the Navajo, has learned that no harm seems to come to the white man from handling these ancient bones, and carrying off the contents of the ruins and the graves. They have been employed by the whites in excavations. So, at last, they too have begun to dig and devastate on their own

account, destroying great amounts of valuable relics. I have learned of one instance in which a Navajo has gone at a great burial mound with plough and scraper destroying many valuable pieces of pottery, and securing a few intact, which were sold to a trader for a trifling sum.

Steps have already been taken to protect by national legislation some of the ruins which lie within the forest and Indian reserves. But the country is so vast and lonesome that the policing even of these regions is very difficult, and more, much more, must be done, and that speedily, if we would save our precious heritage.

It is, indeed, but broken glimpses of the story of the ancient folk which are gained by gleanings in these ruins which there is not enough public enlightenment and interest to save. But when these mouldering relics are interpreted in the



A Small Cliff Dwelling in a Cave.

light of the lore of the living Pueblo Indian the story becomes coherent and full of significance. By and by, when disinterested intelligence shall more obviously leaven our state and national councils, the story will be plainer and richer in pictures of early life in America.



CHAPTER VIII

FORGOTTEN PATHWAYS ON THE GREAT PLATEAU

THERE is no chapter in the story of early America so rich in adventure, so tinged with heroism, so quaint with tales of the chase of will-o'-the-wisps, so full of heartbreaking failures, as that which may be gleaned out of the old Spanish records of the early explorations of the plateau country in the sixteenth century.

One may follow to-day the trails along which the loyal subjects of Ferdinand and Isabella plodded in the old days out of Mexico and back again, drink from the springs and water holes which tided them

over the hot weary miles, and still in the crumbling faces of the cliffs along which the forgotten pathways ran, he may decipher the rudely graven names and the meagre stories cut in the idle hour of a night or noonday camp, of the soldier, the priest, the titled officer on the service of God and their gracious Majesties; to the end that souls might be saved, new countries explored, and incidentally that such gold as the barbarians possessed might grace new coffers.

Many of the pathways which the old Spaniards followed over the lower segment of the plateau were the trails of the Pueblo Indians, and back of these were the meagre tracks of older people still, whose quaint picture writings in shallow rock-picked lines upon the cliffs stand cheek by jowl to-day with the inscriptions of the Dons.

Some of these ancient pathways, worn

first by prehistoric races, followed by their successors—still barbaric folk—and here and there broadened by the early Spanish expeditions, have become modern highways or waggon roads and even railway beds. But all over the deeper recesses of the plateau the ancient trails wind still along valleys and canyons, and over the upland summits, turning aside to springs and water-pockets, now worn deep and plain in the softer rock, now faint and grass-grown. or lost here and there in the sand drift, with no hint in all the great sweep of the vision of the bustling creature who has crowded the brown man into forlorn corners, and only now and then in an idle hour rides back through the centuries along the pathways the old fellows wandered on foot in quaint procession or alone.

It is an interesting fact that it was the great arid plains stretching away west-

ward from the Mississippi and Missouri rivers up to the eastern foothills of the Rocky Mountains, rather than the mountains themselves, which barred so long an exploration of the mysterious country between the frontier settlements and the far-off Pacific. It is equally interesting that these vast plains together with the mountains, through the long periods in which fairly distinct ethnic groups of people were developing, should have held asunder the two great classes of American aborigines, known as the "Mound-builders" east of the mountains, and the "Cave-" and "Cliff-dwellers" west, upon the plateau.

People wise in such lore say that these folk, so different in their modes of life were probably descended from a common source far to the north, wandering down on either side of the great plain and mountain barrier, and finally, without ever intermingling, became extinct as barbarian

types before the Spanish expeditions out of Mexico ushered in the historic period in mid-America.

At last, however, the zeal for exploration and adventure among the pale-faced intruders who had won and settled the east broke across the barriers, and the tides of trade and emigration swept to the western ocean in two great divergent streams. The Great Salt Lake Trail followed the Platte River to the north and west. The Santa Fé Trail bore south-westward, rounding the southern spurs of the Rockies into New Mexico, whence the way led down the Rio Grande over into the Gila valley and so on to the coast.

Thus a vast, wild region behind the mountains which makes up the larger part of the Great Plateau lay long undisturbed between the two active routes of far western travel. Then, and it seems hardly credible to us to-day that it should

have been scarcely four decades ago, the pack train and the prairie schooner, the pony express and the overland mail, gave place to the iron highway, and steam was king along the great transcontinental routes.

The Union Pacific was first to link the eastern and the western oceans, and followed through long stretches the lines of the Salt Lake Trail, cutting across the upper end of the Great Plateau. Later, the Santa Fé Railway, following the line of the old trail as far as the City of the Holy Faith, pushed on across the lower third of the plateau into southern California. Other railways now climb the Rocky Mountains, skirt the northern fringes of the plateau, and join the Union Pacific in Utah. The Southern Pacific bears away south of the plateau along the watershed of the Gila River.

It is easy to-day, even within the limi-

tations of a summer jaunt, for one to gather not a little archæologic lore at first hand and revel in some of the natural grandeurs of the Great Plateau.

It is the purpose of the writer in this and the next chapter to suggest to the transcontinental traveller how by not too strenuous excursions from his route he may enjoy at least some illuminating glimpses of the past and the present in this austere wonderland.

Perhaps the best place accessible by rail, from which to get a first glimpse of the plateau country and the "Cliff-dwellers" who once flourished there, is the little town of Mancos in south-western Colorado. It lies upon the very border of the Great Plateau where this rests against the slopes of the San Juan Mountains, and may be reached by the narrow-gauge loop of the Denver and Rio Grande Railway from Denver or Pueblo.

At Mancos it requires but a few hours to get an outfit ready for a trip to the fastnesses of the Mesa Verde, some twenty miles away, where high in the sides of the rough canyons are perched those largest and best preserved ruins of the "Cliff-dwellers" in the whole country, from which in an earlier chapter we have formed a picture of the old builder and his homes.

The trails are steep and rough. One must sleep for three or four nights under the stars. But blankets and provisions for the out-door life go along on pack animals, and one would be very tender-footish indeed who, man or woman, could not under competent guidance make the journey in safety and without serious fatigue.

A trip of three or four days from Mancos will introduce one to the prehistoric ruins of America in their most impressive phases, give one a taste of life with a

pack-train out in the open, and some glimpses of the plateau which will, if I mistake not, be memorable wherever and however he may have journeyed before.

From Mancos one may ride westward half a day over into the Montezuma valley where just at the foot of the Ute Mountain—Sierra El Late—is the Aztec Spring ruin, which with its multitude of rooms, some of them still intact and unexplored, is an excellent type of the older communal dwellings joined to form one vast stone structure.

For those who like to brave the sun, who do not shun rough fare, are not fastidious in drinking water, and can ride day after day over a rough, baked, almost trackless land, there is a vast region west and north-west from Mancos, reaching over to the Colorado River and beyond which is little visited, full of wild, scarcely explored canyons with many prehistoric



A Navajo Sheep Herder and his Burros.

Packing water to camp.

ruins not mentioned in the books, quaint carvings on the cliffs and far outlooks from volcanic summits and from the rims of lofty mesas.

One of the most noted of the forgotten pathways on the Great Plateau drops off from the eastern hills at Mancos and bears away northwest across the great sagebrush upland to the crossing of the Colorado, far above the head of the Grand Canyon. It started at Santa Fé, came up the Rio Grande and Chama valleys, then across country to this point. Its line is indicated on the map.

Over on the plateau, a few miles beyond Mancos, the old trail passes the Yellow Jacket Springs around which the "Cliff-dweller" folk built their houses, and is to-day just the narrow meandering track with the same dreary outlook across the wide reaches of the sage-clad upland which old Father Escalante blinked at,

as with Brother Dominguez and a little escort he wandered out from Santa Fé in 1776.

They were following the line of an old trail to see if they could not find some new Indians to gather into the fold and a new way to the missions at Monterey upon the Pacific. They roamed the country to the east of the Green River, north of the later line of the trail, straggled over into Salt Lake valley, and got down off from the high plateaus in Utah. Cold weather came on, and they all got very hungry and deemed it wise to go back. But the stupendous Canyon of the Colorado was now between them and home, and to retrace the long route by which they had come was impracticable. So they peered and scrambled about the cliffs along the gorge, and at last found a crossing and won their way in a very demoralised state to the Moqui villages, thence along

an old pathway past Zuni and the famous Inscription Rock, and so home to Santa Fé.

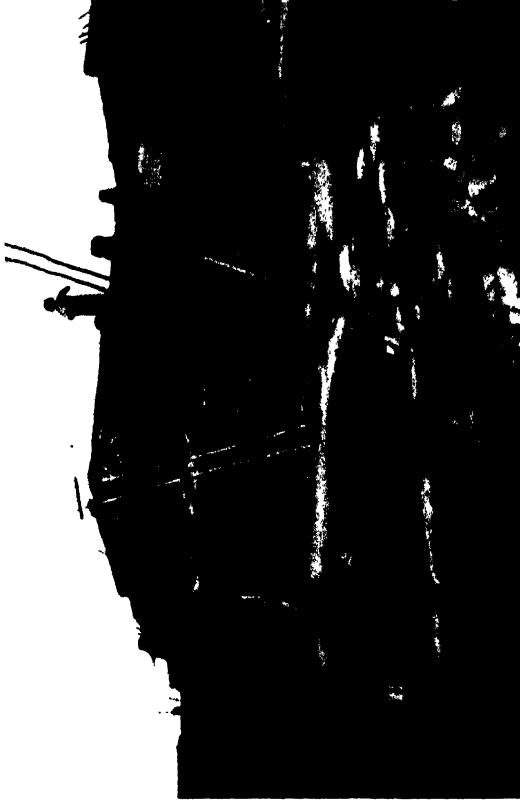
The crossing of the Colorado which they found is still called *El Vado de los Padres*—The Crossing of the Fathers—and the route which they followed out of Santa Fé and across the plateau has long been known as the old Spanish Trail to California. It crossed the Green River, worked its way down through the western reaches of the plateau and through the narrow intervalles of the Wasatch Mountains, whence it bore off down the Virgen River and across the country toward what is now Los Angeles in the general direction followed by the new San Pedro, Los Angeles, and Salt Lake Railroad.

When time or whim, which after all should have a good-deal to say about a summer wandering, bid one leave Mancos for fresh fields, he may be impelled to go in quest of the Pueblos. For the key

to the mystery of the "Cliff-dwellers" is to be sought in the Pueblo Indians who live farther south and east.

If one seek out these descendants of the cliff folk in the Rio Grande valley above Santa Fé or at Acoma or Zuni, or better still, at the Hopi villages in Arizona, he will be able to create for himself a conception of the old "Cliff-dweller," his ways and habits, his play and his religion, his utensils and his homes, which will not be far from the truth; and one will gain an impression of barbarian life very much as the wondering Spaniards saw it three hundred years and more ago.

If one have a pack outfit and loves to wander, the most attractive way from Mancos to reach the Pueblos of the Rio Grande, which are most accessible of all, is to follow backward the trail of Father Escalante, across the foothills of the great San Juan Mountains, past the



A Corner of the Zuni Pueblo.

Pagosa Hot Springs, down the Chama valley, by quaint Abiquiu to Espanola in the Rio Grande valley. Here, close to the Indian villages, accommodation, primitive but sufficient, can be found for men and beasts.

But the twentieth century offers the alternative of steam, and one can reach Espanola in a day by rail or he may come in a couple of hours by rail from Santa Fé.

The Pueblo Indians of the Rio Grande valley hereabouts are simple farmer folk, clinging tenaciously to their traditional mode of life in adobe houses crowded close together, some of which are still entered from the flat roof by ladders. On feast and dance days, gaudy, fantastic dress and weird ceremonial betoken the lingering strain of barbarism which, though in sight of the railroad and in close touch with the white man, links them with the days before Columbus came and with

the spirit and aspirations of the old fellows who built the houses in the cliffs.

At Espanola teams can be secured and competent guidance to the adjacent Indian villages. A ramble about the pueblos of San Juan, Santa Clara, and San Ildefonso affords curious glimpses of a phase of rude life which is here fast passing away.

The Spanish conquest of the Pueblos in the Rio Grande valley, as elsewhere, was only accomplished through the destruction of many towns, so that none of the present pueblos are prehistoric and none are exactly upon the old sites. But the ruins of the old towns are accessible and worth a visit.

As one looks west from Espanola, he sees close at hand a series of long, tongue-like mesas ending in the valley and sloping back to a line of low mountain peaks. These are the Valles Mountains and between the mesas at their feet are many

lonesome canyons. In these some low green trees, a few lofty pines, grass and cactus, and in the season jaunty flowers hide somewhat the sandy reaches of the narrow bottoms and lower the glare of the bright yellow cliffs which shimmer and scorch in the sun at midday.

These vivid cliffs are very soft, for they are mostly formed of pumice stone, the plaything of some volcanic outburst which has deluged the land hereabout with molten lava and reared low mountains over the site of the broken earth. Often a little stream gurgles down into the heads of these canyons to be soon lost in the sand; more often in the summer they are wholly dry.

It is not because they are picturesque little canyons, broiling hot in the midday sun and wofully "shy" in water, that I invite attention to these recesses in the hills near Espanola. For we are now on

the eastern edge of the Great Plateau over whose whole vast extent are hundreds of canyons in themselves far more noteworthy.

But if one climb for a few miles up into one of these canyons just above Santa Clara, he will presently stand face to face with some of the most curious, primitive, and fascinating deserted homes which are to be found in all America, the homes of the "Cave-dwellers."

In the fronts of the winding cliffs, looking out upon the little valleys at their feet, are holes of various shapes, big enough for a man to crowd through by stooping, which lead into cosy little chambers within and often into a series of these clustered around the opening and all pecked out of the friable rock. Many of them are smoke-begrimed still, in some mud plaster is yet clinging to the walls. Small cubby holes here and



Homes of the Cave-Dwellers—Pajarito Park, near Espanola, N. M.

there at the sides of the rooms made snug places in which to stow away trinkets, while fragments of projecting sticks near the low ceilings show the method of bestowal of scanty wardrobes. A few of the dwellings have a small smoke hole above the entrance, but for the most part the door is door and window and chimney.

The vivid picture framed by the rude doorway of these rock chambers as one looks out from their cool recesses upon the hot green and yellow reaches of the valley and the pine-clad slopes beyond is most attractive, and as he lingers within, loath again to face the ardent sun, he is ready to concede that even the rude lot of the old cave man had its compensations.

In front of many of the caves, piles of hewn stone and small timber holes in the cliff show that rude stone buildings once stood in front covering the doorways in the rock. Pottery has been found in

the recesses of some of the caves. Stone axes, arrow-heads and pottery fragments still are plenty along the foot of the cliffs, while picture-writing in the faces of the rocks is plain and frequent.

The swarthy fellows down here in the valley of the Rio Grande unfold to-day the tradition that it was their people, the Cochiti, who long ago in the stress of conflict with alien tribes were forced again and again to seek these fastnesses and make shift to carve a shelter in the cliffs. The pottery, the utensils, the masonry, and the pictographs upon the rocks confirm the story which science has framed from the fading memories of the Quéres.

In this short and easy excursion from Espanola to the cave dwellings of the Puyé, now included in a recently sequestered National Reservation—Pajarito Park—one gains a vivid conception of this curious phase of aboriginal life. There

are larger groups of similar dwellings and other strange structures in the region immediately south between the Great White Rock Canyon of the Rio Grande and the mountains. But the country is wild and rough and rarely visited except by old Cochiti veterans who now and then slip away on mysterious errands to these ancestral haunts.

Should one, however, be tempted to explore them they are best approached from Cochiti, whose nearest railway point is Thornton on the Santa Fé Railway. With a pack outfit and under the guidance of one of the old fathers of Cochiti, one may seek out the Painted Cave, the ruins of the Tyu-onyé, or the Stone Lions of Cochiti, and scramble over gigantic ruins on the mesa tops where the old pathways are worn deep into the rock as they run from ruin to ruin, or from the ruins to the water sources, or to the places of the shrines.

When one gets home again, he will probably read with zest that curious archæologic novel by Bandelier, *The Delight Makers*, whose plot is set in the recesses of this gashed mountain slope and deals with the loves and lives and customs of the quaint old people who have gone leaving their stuffy homes to silence and the sun.

From these upper reaches of the Rio Grande valley everything gravitates towards Santa Fé and the quaint old town with its squat adobe Mexican houses elbowed into cramped corners by modern structures, its old church, its museum, and the least imposing palace I fancy which the country boasts, may well detain the tourist for a day.



CHAPTER IX

ACROSS THE PLATEAU BY RAIL AND TRAIL

THE Rio Grande valley lies along the eastern border of the Great Plateau.

The traveller westward bound across the continent by the Santa Fé Railway catches his first glimpses of the Pueblo Indian villages as he swings from the Gallisteo beyond the last spur of the Rocky Mountains, into the Rio Grande valley. Here he passes close to the quaint villages, San Domingo and San Felipe.

From Bernalillo a little farther on one may drive up the Jemez Valley and visit the pueblos of Santa Ana, Sia, and Jemez and the interesting old ruins on the hills about them, the wreckage of Spanish

conquest in the seventeenth century. But the train speeds on down the river, the level edges of the plateau, here lava-capped, building the western horizon line. The Sandia Mountains cut short the vision toward the east.

At Albuquerque, the last town of considerable size this side the Pacific coast, one might outfit a pack-train—a stout buck-board would answer—for a journey of several days up through the valley of the Rio Puerco of the East into the heart of the plateau to the Chaco Canyon.

This route leads along old Pueblo and Navajo roads, past Cabezón, and across the line of the old transcontinental trail westward from Santa Fé. It is in part the route over which Colonel Washington and Lieutenant Simpson and their military escort travelled in 1849, to carry an ultimatum to the predatory Navajos, discovering the wonderful Chaco ruins and

the cliff houses of the Canyon de Chelly westward.

In the Chaco Canyon and upon the adjacent hills is a large group of superb prehistoric ruins of great communal houses telling of thriving times, of skilful builders, of excellent farmers, in the old days when all the folks were brown and the brown folks owned the earth. One of these Chaco ruins containing several hundred rooms has been partially explored by the Hyde Expedition, whose invaluable collections are deposited in the American Museum of Natural History in New York. There is accommodation here to-day at the trading post of Richard Wetherill, close beside the famous Pueblo Bonito, one of the largest of this great ruin group.

The Chaco Valley may be most easily reached, however, by team from Chaves or Thoreau on the Santa Fé Railway

farther west. In any case it is a long hot journey over a rough arid country, peopled, if at all, by Navajos, and should not be undertaken except under skilful guidance with a good outfit and an abundance of provision.

A few miles below Albuquerque the railroad passes one of the most flourishing and most modernised of the Pueblo villages, Isleta, leaves the Rio Grande and enters the plateau country bearing west. Presently it crosses the Rio Puerco of the East, so called to distinguish it from a stream of the same name over the continental divide, and winds up a small branch, the San José.

To the north rises the volcanic crest of the San Mateo Mountain, renamed Mount Taylor by Simpson in 1849 in honor of the President under whose administration his explorations in the plateau country were conducted.



Daughters of the Desert.

This mountain with its sharp summit and long rough spurs standing high upon a great mesa top is an impressive type of an extinct volcano with hundreds of subsidiary outbursts gathered at its feet. It was long ago forced up through the plateau, deluging the land for wide areas with lava and thus protecting the surfaces at its base from later erosion. But the floods and the weather have made away with vast areas of strata all about the mountain, marking its borders with long valleys edged with canyons and gorges, and now the rugged old sentinel stands up aloft looking out over a wilderness of barren land

The summit is easily accessible in a day and a half from Pajuate, a small Pueblo farming village at the eastern base, whence a good trail leads to the foot of the summit spur. Then it is a go-as-you-please scramble to the top which rises about eleven thousand feet above the sea.

Save for the summit of the San Francisco Mountain in Arizona, I do not know of any vantage ground from which one may more happily than here look over this marvellous land. The vision is inspiring, and if one be new to the allurements of far horizons swaying in long fantastic waves across the hazy reaches of the hot south-west; if the earth he knows has not dipped her cliffs in sunset and set them in lines which beckon on and on, he will begin to realise from this, as he might from many another pinnacle in this lofty wonderland, that in spite of its austerities, in spite of its vast arid wastes the Great Plateau weaves a spell over him who has once shared the spirit of its solitudes from which he can never again, nor would he willingly, be free.

San Mateo is one of the sacred mountains of the Navajo and to its summit they, as well as the Pueblo Indians, resort

for secret ceremonies and especially to propitiate and to tell their needs to the Powers Above which manage rain. I gather from hints, particularly of the Navajo, that the night has veiled many a weird ceremonial on this narrow mountain top which, as they tell me, is none of the white's man business. In fact, there is a small cave or pit in the rock on the very summit of the peak just large enough for a man to crawl into, with four deep-cut pathways leading a few feet away from it toward the world corners. I found stuck into the rock-debris at the sides of the pit several old prayer-sticks of Pueblo manufacture, with the jagged lightning symbol cut at one end, the other pointed, the husk parcel of sacred meal with which they were once furnished mostly weathered off.

Just at the edge of one of the lava-clad tongues which the San Mateo Mountain sends off into the San José Valley, the

railroad cuts through the corner of the Pueblo village, Laguna. This is an interesting excursion centre where temporary accommodation and teams may be secured.

The Laguna pueblo is picturesque and rich in curious phases of the village Indian life. Here may be seen the making and decoration of pottery by hand and its primitive firing in the open air. But here as elsewhere the elder pottery makers are fast disappearing, and a rougher, less artistic, less attractive ware is supplanting the old. Nevertheless, here and at Acoma and Zuni, interesting jars and bowls may now and then be found.

From Laguna one may be taken in a farm waggon, perhaps by one of the Indians, to the quaint Mexican towns, Cubero and Ceboletta, a few miles away. From here also one may best secure guidance and conveyance for the trip to the summit of the San Mateo.

But the little journey from Laguna which above all others will be memorable ends in that fascinating old "City in the Sky"—Acoma. It is some sixteen miles from Laguna, the road winding along a wide, cliff-bordered valley. It is the same old town, perched upon a great sheer walled mesa standing high out of the valley bottom, which the Spaniards found as they came floundering through the sand and scrambling over the rocks from Cibola, eager for gold, in 1540. Except for the far-away Hopi villages, it is the most primitive and impressive of the pueblos.

Acoma has been most vividly described and its stories and legends rehearsed by Lummis who knows it and its people well. And if one has read, as he who travels in this south-west country should, his *Spanish Pioneers*, *Strange Corners of our Country*, and the *Land of Poco Tiempo*, the ride up

the valley past the Enchanted Mesa, the unfolding of this wonderful old town, the glimpses of its quaint folk caught as you pass round the foot of the mesa, climb the ancient trail to the summit and wander among the houses, will frame a memory which will seem no part of the land and century you know.

As the necessity for protection has disappeared, the Acoma people, as is the case of other Pueblos whose old towns stand on defensive sites, have gradually built summer homes nearer their farms, so that the visitor to Acoma in the hot season will find many of the houses closed. But enough of the people are always there to interest the stranger and, it may be added, to be interested in him.

If one can so time his journey as to be at hand when the harvest dance is held in early September, the people will all be there and the quaint life, the weird cere-

monial, and the festive spirit of the hour will reveal old Acoma at its best.

One can drive to Acoma from Laguna, wander for two or three hours through the town, and return the same evening. But it is better to stay over for a night.

The sunset hour at Acoma with the exquisite far outlooks upon valley and mesa and mountain; the processions of quaintly clad women bringing water in great handsome jars poised upon their heads; the musical call of the town crier as from an housetop he issues some order of the Governor, some plan for the morrow's work, some announcement of ceremonial to be set afoot; the quaint home groups which gather on the housetops at dusk laughing and chatting or calling from house to house the gossip of the day; a dusky mother crooning to her babe; a weird song caught from group to group and floating off into the valley; the glow

of the lines of bake-ovens along the streets as night falls; the gleaming smoky heaps in which pottery is slowly firing under the watchful ministrations of old women gathered close about them; then the great silences of the night up on this towering rock close under the stars—these, and the stir of the new day as the early sun flashes from cliff to cliff, are all impressions which one were ill-advised to miss.

Some of the kindly folk can always be found who will cheerfully sweep a corner of the living room in their terraced houses where a blanket may be spread, or point out, which I always prefer, a cosy corner on the roof where the night may be passed in comfort.

If one should chance, as was once the writer's good fortune, to come over on a feast day in the autumn with the Padre and hear the bells in the great church beside the village peal out a welcome as

the watchers on the cliff catch sight of him toiling up the trail, he will not doubt that the little French missionary and the Church which he personifies have won a strong hold upon these simple children of the south-west, who find no incongruity in reverence for the Cross and regard for its ministers, and in a sturdy belief in their own Powers Above and an attitude towards nature which we others name pagan.

The Padre is coming! The Padre is coming! was the meaning of their jubilant cry as they crowded, big and little, men and women, to the head of the trail to meet him. The Padre had the best room in the village, the whitest bread, and the thickest, blackest mutton-stew. When he walked about, a score of shrieking, giggling brown youngsters, naked or clad it matters not, pattered at his heels. He does not allow himself to be disturbed if,

as he celebrates the Mass in the Church, some of his restless, inquisitive, blanket-clad charges roam about the altar and finger with appreciative mien the splendid vestments which his function demands.

When their turn comes after the noon, and up and down the long streets between the strangest dwellings in America the fantastic procession of painted men and women goes shuffling and singing in the weird harvest dance which celebrates and solicits the beneficence and good-will of powerful Beings in earth and air of whom our Scriptures fail to tell and for whom we seek in vain among mythologies, while the good Padre wanders to and fro beaming approval, one wonders and admires. One wonders if these are the people who used to stone the priests and throw them off the great cliffs yonder; he cannot fail to admire the adaptability

of the Church even in our day to unusual and complex phases of belief.

As one leaves Laguna by rail going up the valley of the San José, if he is interested in the outlook with which plodders of many sorts and many centuries along the forgotten pathways have beguiled the weary miles, let it be in the daytime, even if one has to take a freight train, for just here and for a long way up the valley of the San José ran a noteworthy old highway.

The Pueblo Indians used it in prehistoric times as did no doubt the earlier dwellers in the cliffs and caves, if they ventured so far afield. The Spaniards came this way again and again in their early adventures on the plateau. Along here came Father Escalante floundering wearily home to Santa Fé. Many a lonesome little caravan and many a solitary fortune-seeker, his pack upon his own back, has

passed this way on the long journey from Santa Fé to the Pacific, dodging hostile Indians, hungry and bedraggled.

Along here came Lieutenant Simpson in 1849, homeward bound, after his long jaunt into the Navajo country to teach those braves manners. Captain Sitgreaves and his party passed here in 1851, by order of the Senate to find out where the Zuni River went to. Lieutenant Whipple, in 1854, laid out along the valley the lines which the railroad was by-and-by to follow. Tired, worn, and ragged, Lieutenant Ives hurried back down the valley from the Colorado River in 1858.

How many times the Navajo have stolen down this way out of their lairs among the northern hills to plunder the thrifty Pueblos it would not be easy now to tell. Then the highway grew wide and worn, and great waggon trains from Santa Fé bore around the spur of the San

Mateo, heading off up the valley. At last the noisy trains began to waken strange echoes from the mountain flanks, usurping the choicer places as the narrowing valley climbed the long slopes of the Continental Divide, elbowing the old pathway unceremoniously aside.

As one rolls along up the valley, he will presently see great jagged black rocks crowding close to the rails on either side. These are old lava flows, one from the plateau of the San Mateo on the right, the other, the end of a great stone river which has poured out of the earth some twenty miles off to the south-west where is a beautiful cool spring called the Agua Fria. Down it came, this river of fire, full four miles wide in many places, sluggish and glowing, cooling as it ran until just here where the railroad skirts its gloomy margins, it grew black and hard and stopped. But as the molten lava cooled,

its surface was thrown into wild and forbidding shapes, black and sinister.

It is shunned by man and beast, this gloomy streak of chaos stretching down from the Agua Fria. For the hoof of the beast and the foot-gear of the human venturing into its recesses are soon cut and torn by its jagged edges. One old trail goes across the lava flow, formerly used by the Zunis and the Acomas when they traversed the country to visit and to trade. But it is hard to find to-day and it is wiser not to try.

Now at the left, the country rises over the long timber-clad slopes of the Zuni Mountain which for many miles shuts the railroad in against the northern mesas.

One of the old trails to Zuni and on to the Pacific, now a reasonable waggon road, goes across the mountain; another rounds its southern end, passing the Agua Fria; another leads our way up through Camp-

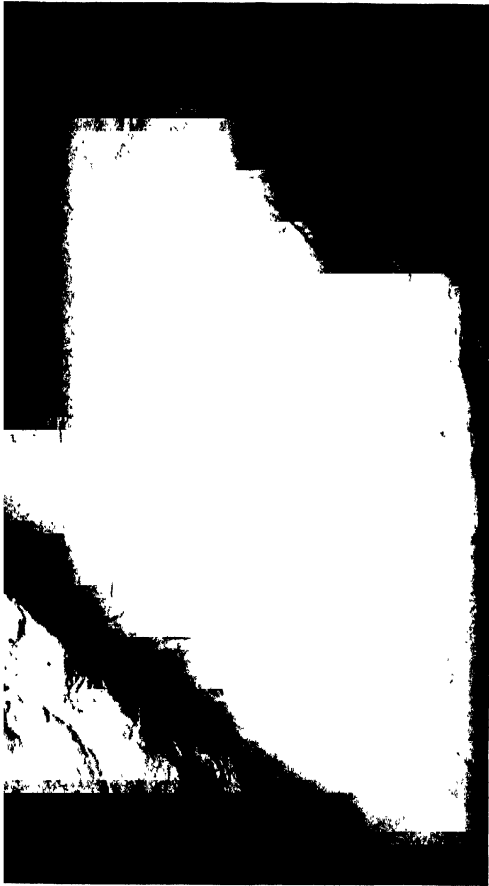
bells' Canyon over the Continental Divide. The two former were much frequented trails from Coronado's time and before, down to the day of the railroad.

Straight over the mountain not far from its farther slope, and some fifty miles away, is the famous El Morro or Inscription Rock in whose soft cliffs are cut strange pictographs of prehistoric folk and brief record of their passage, in quaint old Spanish script, of many expeditions out of Mexico in the seventeenth and eighteenth centuries. Nor is the trace of vandals wanting, who have not spared to efface some of these priceless records of real men that the names of miscreants might win enduring shame.

Noteworthy names are here inscribed; names with heroic stories clinging to them; soldiers of fortune and of the Cross in the days of our Pilgrim Fathers. For just three centuries has the graven record

which I have selected from my photographs for reproduction here been exposed to the sun and the weather. But the shallow lines cut in the soft rock are still plain as the picture shows. Founder of colonies and of the City of the Holy Faith, governor and explorer, Don Juan Oñate passed this way when our Pacific Ocean was just becoming known and was called the South Sea.

El Morro—The Castle, as the Spaniards named it—is still miles away from any settlement and save for the few scrawls of the vandals upon its base there is nothing upon or about the rock to indicate to the visitor that times have changed. Some bedraggled emissary from the Spanish Court might for aught that we can see file around the corner of the cliff yonder in quest of water and camp; still seeking the fabled cities of Quivira. There is no historic monument in America more



An Inscription of a Don—on *El Morro*.

It reads in old Spanish script—"Passed by here the *adelantado* Don Juan Oñate to the discovery of the Sea of the South on the 16th of April, 1606."

worthy of preservation than this noble collection of autographs and legends of the early pioneers.

Some large ruins crown the top of El Morro, and a small pool of water is often to be found at its foot. Altogether it is one of the most picturesque camping-places upon the old pathways of the plateau. It may be reached from Zuni or from Fort Wingate in a day and the way is not hard to find.

I wandered once across this way from Zuni with one of the old men of the tribe, hight Mappa-Nutria. A manly, genial, white-haired old barbarian he was, who muttered prayers and sprinkled sacred meal upon the ruins which we passed, and, stooping low the while above the water, with much mumbling offered to the Spirit of the Agua Fria from his little treasure bag small pieces of iridescent shell and some excellent fragments

of turquoise. I was glad to have so earnest an advocate with the Powers which kept the beautiful little spring under the lava bed wholesome and aflow, but the water had become sacred for the time and while to drink it was no sin, I must perforce go one night with unwashed face and hands, for such use was not, he said, respectful. I feigned accedence, but tried at dusk in surreptitious fashion to rinse my finger tips. Old Mappa found me out, however, and gave me such a spirited wiggling, half in Zuni, half in Mexican, and all mingled with vivid pantomime, for my lack of reverence and decency towards the Powerful Ones, that I was actually ashamed. And I think if I had been possessed of them I should then and there have cast some little shells and broken turquoise into the bubbling water, too, in late extenuation of my fault. But I came in sight of the rail-

road the next day, and then if I had made the offering I should perhaps have been ashamed again.

Now for many miles the way of the rails lies north of west along a wide valley, the Zuni plateau still to the left, and to the right one of the most superb reaches of stupendous cliffs which the whole land affords. Red and grey and brown is what one calls them if he is pinned down to words. But if one can pass this noble palisade at sunset coming east—and it is worth while to come back this way for this alone—and if as the low sun smites them one shall see the majestic, winding faces of the cliffs rise and glow with a palpitating splendour almost unearthly, he will realise that one more link has been forged in the chain which henceforth shall hold the spirit subject to the matchless beauty of the Great Plateau.

The traveller by rail is presently over

the divide and going down hill with the water courses which lead to the Pacific. The great cliffs at the north dwindle, the Zuni Mountain falls away, and the train goes thundering down the valley of the Rio Puerco of the West.

Before one gets down to Gallup in the valley of the Puerco, he must make up his mind whether the time or money or whim are consenting to a trip to Zuni; for if it is yes, Gallup with its livery stable and necessary outfit is the best place to stop.

Zuni lies about forty miles to the south of Gallup, over a fair waggon road. The pueblo is in a broad brown valley not so picturesque as Acoma, like it half deserted in summer, with a type of face and form, a style of pottery and architecture, and hosts of superstitions all its own. A group of ruins near the modern Zuni is all that is left of one of the famous seven cities of Cibola of early Spanish days. But one

may find the others if he be not afraid to wander in the sun. The Zunians will point out a rude pile of stones a few hundred yards from the village, which is the centre of the world.

One may climb the rude ladders and wander on the terraced roofs up to the fifth story and look across the shimmering valley to a grand old mesa standing alone—the Thunder Mountain of their legends. The visitor will be welcome—doubly so if he discreetly dispense some small offerings of sweets and tobacco—to the snug abodes of the various clans, and may gain entrance to the gloomy chambers under ground in which at times weird ceremonies are conducted. If one be missionaryly inclined, he will call upon the ladies at the school and admire the spirit and beneficence of their work.

One finds here in Mr. D. D. Graham, an Indian agent whose example of honest,

vigilant, and sympathetic administration offers the simple and effective solution of the Indian problem. For the problem lies not so much in the Indian as in securing and properly supporting an honest and capable representative of the Federal Government, and for lack of this in many instances we have suffered national disgrace.

One may ride in a day from Zuni to Inscription Rock along the old pathway which the early Spaniards trod and return to Gallup, if he will, by the way of Fort Wingate.

When the wanderer gets back to Gallup and the railroad, he will doubtless be weary of the rough roads and the ardent sun, and impatient for the train which is to carry him to "somewhere." But before he goes he should look across the narrow valley to the cliffs beyond through which an old road leads to Fort Defiance in the Navajo Reservation, a day's journey away.



A Bearer of Water at Zuni.

The old army post at Fort Defiance is now abandoned by the soldiers but is an agency for the Navajo Indians. It is a typical frontier military post, with the little houses grouped around a square, its barracks, its stables, and now the school. One would not be tempted to brave the sun for this alone. But a day's ride beyond the post, along a fascinating old trail which in its time has seen many a quaint procession, will bring the rider to one of the grandest canyons in the whole plateau, next to the matchless one which lies upon the flanks of the great Colorado. It is the Canyon de Chelly, in whose recesses are hundreds of ruins of the prehistoric people. A few Navajo live here during the summer and cultivate the fertile patches in the bottom which the old folks owned and tilled in the days which are forgotten.

The Canyon de Chelly can be approached

from Santa Fé or from Albuquerque by way of the Chaco, along the old trails already mentioned. I have come to it over the hot miles out of Colorado and the San Juan Valley. The easiest approach is from Gallup by way of Fort Defiance; but if one be in command of a pack outfit the trip to the Chelly is worth the toil it costs to reach it, whichever way he comes.

Again aboard, the train speeds down the Puerco Valley, past Navajo Spring which has been the scene of many a rendezvous of Indians and of white men in the old days. Down here ran the old trail from Cibola to Tusayan—the land of the Hopi—along which the eager Spaniards toiled in the sixteenth century, hoping that at Tusayan they might find that golden storehouse of their dreams which at Cibola had faded into a tangle of mud houses with vociferous brown folk swarming over the roofs and heaving rocks down

upon their heads. But it was not much better at Tusayan whence some pushed on west in quest of rumoured giants, but found only the gigantic chasm of the great Colorado from which they could not even slake their thirst, so monstrous were the precipices at whose feet the river roared and tossed. Then they all came sadly back this way to Cibola to wander off again far eastward in the vain quest of cities and treasures which were chimeras.

From Adamana in a day one may visit the Petrified Forest, survey noteworthy ruins of the elder folk, and see some excellent ancient pictographs upon the faces of the ledges.

Presently the valley widens, the country stretches away grey and hazy on either hand, and the train is winding along the Rio Colorado Chiquito—The Little Red River, or as we now call it, the Little Colorado. From the vicinity of Winslow

one may look down the valley of the Little Colorado across the forbidding reaches of the Painted Desert to the brown and red buttes between which a way leads up to Tusayan.

The Little Colorado winds in placid fashion through the sand for a few miles, then strikes the lava flows from the San Francisco Mountain, drops into an unassuming canyon which gradually deepens until at last it is a straight walled gorge, less than a mile wide at its rim and full three thousand feet in sheer depth. The adventurer in this country of precipices and gorges gets wonted to dizzy trails and shivery depths close at his feet, but he who without flinching can peer over the edge of the Little Colorado gorge may be certain that he has sustained the supreme test. These lower reaches of the Little Colorado are most conveniently visited from the Grand View Hotel at the Grand

Canyon along an old Moqui trail. Many ruins of the ancient people lie in the Little Colorado Valley not far from Winslow and along the stretches a few miles north of the railroad.

As one leaves Winslow, looking out of the car window ahead and to the left, he sees a break in the lines of the buttes through which the old Sunset Pass Trail, and later a mail and waggon road entered the great Mogollon Forest on the way to the Verde Valley and the country beyond. This old highway, like many another which the railroad has crowded aside, is followed now and then by the cattlemen driving in their unruly charges from the forest ranges. But it is now rough and overgrown and the great pines are claiming their own again.

Now the railroad climbs up on to the mesa out of the valley of the Little Colorado, up into the pine forest, up among

a wilderness of cinder cones, to the foot of the grand old volcano, the beautiful San Francisco Mountain. Here the homely little town of Flagstaff, in the name of the Grand Canyon of the Colorado to which it was so long the popular gateway; in the name of the superb view from the mountain top; in the name of cliff dwellings and cave dwellings, and many an alluring forest drive, invites the traveller to break his journey westward.

From Flagstaff, by waggon or a horse, one may cross the great Mogollon Forest southward into the Verde Valley and the land of the Apache, visiting Montezuma's well and castle and the cave dwellings of the Verde. Thence by the old Government road one may cross over the hills to the Tonto Basin and the curious natural bridge, and so back again to Flagstaff another way.

An old waggon road "Beales Waggon

Road," straggling westward from Santa Fé, around the San Mateo Mountain by the Agua Fria and Inscription Rock via Zuni, Navajo Spring, and the valley of the Little Colorado, comes close to the railroad just as it turns the spur of the peak to enter Flagstaff. Farther west it bears off to the right, skirting the edges of the Coconino Forest, on the way to the crossing of the Big Colorado.

Beyond Flagstaff the railroad makes its devious way westward.

At Williams a branch road leads to the very rim of the Grand Canyon some sixty miles across the Coconino plateau, where are hotels, saddle-horses, guides, and all necessary as well as many unnecessary conveniences for excursions along and into the Canyon. One should not permit either the world, the flesh, or any other potency to call him back in less than a week from this inspiring region.

Now the railroad drops comfortably down from the plateau, and comes at last to the crossing of the Colorado River below the Grand Canyon where the sullen, muddy water laps ignominious shores with no suggestion of the glorious chasm which it has helped to sculpture. Then the desert, then the Garden of America in Southern California, then the Pacific.

But the most interesting excursion of all those which may be made from the Santa Fé Railway as a base remains to be described. It is to the far-away Hopi or Moqui villages, the ancient Tusayan, about one hundred miles north over a rough arid upland with few watering places and at best a hot, hard ride.

Although the Hopi Pueblos were among the earliest to be seen by the Spaniards and were quickly brought into nominal subjection, they maintained their isolation throughout the period of Spanish rule and



Hopi Folks.

The whoris of hair at the side of the head indicate that the wearer

it was not until the explorations for the transcontinental railroad route, midway in the last century, that their modes of life and points of view became markedly modified by intercourse with the whites. They are still too far from lines of travel to be visited frequently. The result is that the Hopi settlements of to-day reveal the village Indian in his most primitive aspects with his traditions and myths and barbaric ceremonials but superficially modified by ingrafts of the white man's point of view.

While traces of the Roman Catholic Church are interwoven in very complex fashion with the religious conceptions and even in some degree with the primitive ceremonials of all the other existing Pueblo Indians, the Church has from the first secured but a superficial and fitful foothold among these people. Within the past few years, it is true, the establishment

of schools and government agencies and the more frequent visits of the whites have profoundly modified the dress, the material aspirations, and the conceptions of the great world of men beyond the immediate vision of the Hopi. But here in his snug houses with their terraced stories, perched upon great bare mesas is that by which we may most closely link the present with the genuine barbarian of a high order who saw the coming of the white man into his contented seclusion along the same old pathways by which the visitor comes to-day, straggling along under the cliffs, hot and dusty and athirst.

The Hopi man is a farmer still, but is beginning to cast aside his primitive utensils for the white man's farming tools. He is a genial, hospitable pagan, fun-loving in his way, loyal to his family, and closely linked in every act and purpose and aspiration with potent Beings in earth

and air and sky which he consults, worships, placates, holding them in close communion through quaint and weird ceremonials which age by age have been handed down at last to him. His women folk are altogether not uncomely, the youngsters just gurgling, playing, laughing youngsters, in aspect much like others who are white save for the accident of colour and garb.

While the relatively unalloyed traditions of the Hopi offer a field for the student of folk-lore among the Pueblo Indians of exceptional extent and value, the ordinary visitor touches but superficially upon the inner life of the people. He is indeed constantly impressed with a mysterious underlying current of life and impulse which is opened only to such as can win their confidence, understand their speech, and are trained to recognise the value and significance of their lore. But certain of

the Hopi ceremonials, especially the so-called Snake Dance, which is really an elaborate prayer for rain, are so weird and striking that for several years white men have gathered in considerable numbers to witness them.

The Snake Dance has been frequently described. The scene at an absorbing moment has been caught by Lungren upon his great, well-known canvas. Photographs of various phases of the ceremonial are abundant. To the repeated painstaking observations and the learned treatises of Dr. Fewkes we owe the most comprehensive exposition of the weird ceremonial and its lore.

I shall not here describe the Snake Dance nor attempt to indicate the profound impression which this relic of barbarism makes upon the sympathetic beholder. To the many, the appearance and the handling of snakes, both harmless



'The Accident of Color and Garb.

Some pottery in the foreground has been laid for firing in the open air at the edge of the cliff near

and venomous, in the culminating phases of the intricate and prolonged ceremonial is the chief and absorbing attraction. But to him who has come to know the participants in their daily walks, and realises that the crude barbaric exhibition is but the expression handed on through centuries, of sincerely cherished and profound religious conceptions; to him who now and again as the strange processions out of the slumbering centuries unfold before him at sunset finds the eye wandering out upon the hazy valleys and over the quavering uplands under whose sway the conceptions here dramatised were evolved or fostered: to him who has grown even fond of these children of the sun, for their simplicity, directness, and familiar intercourse with Beings out of sight but ever close at hand which rule the world,—the Snake Dance ceremonial has a more absorbing and abiding fasci-

nation than its crude dramatic features can awaken.

There are seven of the Hopi villages, and at some of these the Snake Dance ceremonial is held each year between the middle and the end of August.

For the journey out to Hopi and back one should take at least a week. It can be made from Flagstaff or Canyon Diabolo or Winslow or Holbrook or Gallup, either on horseback or by waggon, and usually one or more conveyances go from each of these places. Almost all of these routes follow in the main the lines of old Indian trails and lead by the ancient watering places which till fifty years or so ago only the brown man and the Spaniard knew. Agents of the Santa Fé Railway can give information regarding routes and have issued an interesting short description of the Snake Dance by Hough.

It is disheartening to realise, as the

thoughtful visitor to the lingering remnants of a vanishing race in our western country is forced to do, that priceless treasures of folk-lore are each year slipping away out of sight forever as one by one their swarthy old custodians drop away. It is to be hoped that general enlightenment among the people of the land may demand, ere it be too late, such liberal appropriations for the maintenance of devotees to American Anthropology in these lonesome fields as shall be more worthy a nation so great as ours and with aspirations not all for material conquest, whatever may be the apparent leaning of the hour."

The writer is certain that he who shall break his long transcontinental journey for one or all of the glimpses of life and nature on the Great Plateau which these pages have aimed to suggest, will win some lasting and inspiring memories and a deeper love of the great land which we inherit.



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